

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and HP INC.,
Petitioner,

v.

XR COMMUNICATIONS LLC,
Patent Owner.

IPR2022-00367
Patent 10,715,235 B2

Before MIRIAM L. QUINN, BARBARA A. PARVIS, and
JAMES J. MAYBERRY, *Administrative Patent Judges*.

MAYBERRY, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Apple Inc. and HP Inc. (“Petitioner”), filed a Petition requesting *inter partes* review of claims 8–14 (the “Challenged Claims”) of U.S. Patent No. 10,715,235 B2 (Ex. 1001, the “’235 patent”). Paper 3 (“Pet.”), 1. XR Communications LLC (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 7 (“Prelim. Resp.”). With our authorization, Petitioner filed a Preliminary Reply (“Prelim. Reply,” Paper 8) and Patent Owner filed a Preliminary Sur-reply (“Prelim. Sur-Reply,” Paper 9).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2021) (permitting the Board to institute trial on behalf of the Director). To institute an *inter partes* review, we must determine that the information presented in the Petition shows “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). For the reasons set forth below, upon considering the current record, we institute an *inter partes* review.

B. *Real Parties-in-Interest*

Petitioner identifies Apple Inc. and HP Inc. as the real parties-in-interest. Pet. 67. Patent Owner identifies itself as the real party-in-interest. Paper 5, 2.

C. *Related Matters*

The parties each identify the following litigations as matters related to the ’235 patent: *XR Communications, LLC, dba Vivato Technologies. v. Amazon.com, Inc., Amazon.com Services LLC, and Eero LLC*, No. 6:21-cv-0619-ADA (W.D. Tex.); *XR Communications, LLC, dba Vivato*

Technologies. v. Apple Inc., No. 6:21-cv-0620-ADA (W.D. Tex.); *XR Communications, LLC, dba Vivato Technologies. v. ASUSTek Computer Inc.*, No. 6:21-cv-0622-ADA (W.D. Tex.); *XR Communications, LLC, dba Vivato Technologies. v. Google LLC*, No. 6:21-cv-0625-ADA (W.D. Tex.); *XR Communications, LLC, dba Vivato Technologies. v. Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc.*, No. 6:21-cv-0626-ADA (W.D. Tex.); *XR Communications, LLC, dba Vivato Technologies. v. Dell Technologies Inc.*, No. 6:21-cv-0646-ADA (W.D. Tex.); *XR Communications, LLC, dba Vivato Technologies. v. HP Inc.*, No. 6:21-cv-0694-ADA (W.D. Tex.); and *XR Communications, LLC, dba Vivato Technologies. v. Microsoft Corporation*, No. 6:21-cv-0695-ADA (W.D. Tex.).

D. The '235 Patent

The '235 patent, titled “Directed Wireless Communication,” issued July 14, 2020, from application US 15/495,539. Ex. 1001, codes (54), (45), (22). The '235 patent ultimately claims priority to a provisional application, US 60/423,660, filed on November 4, 2002. *Id.* at code (60).

The '235 patent relates to “a multi-beam directed signal system [that] coordinates directed wireless communication with client devices.”

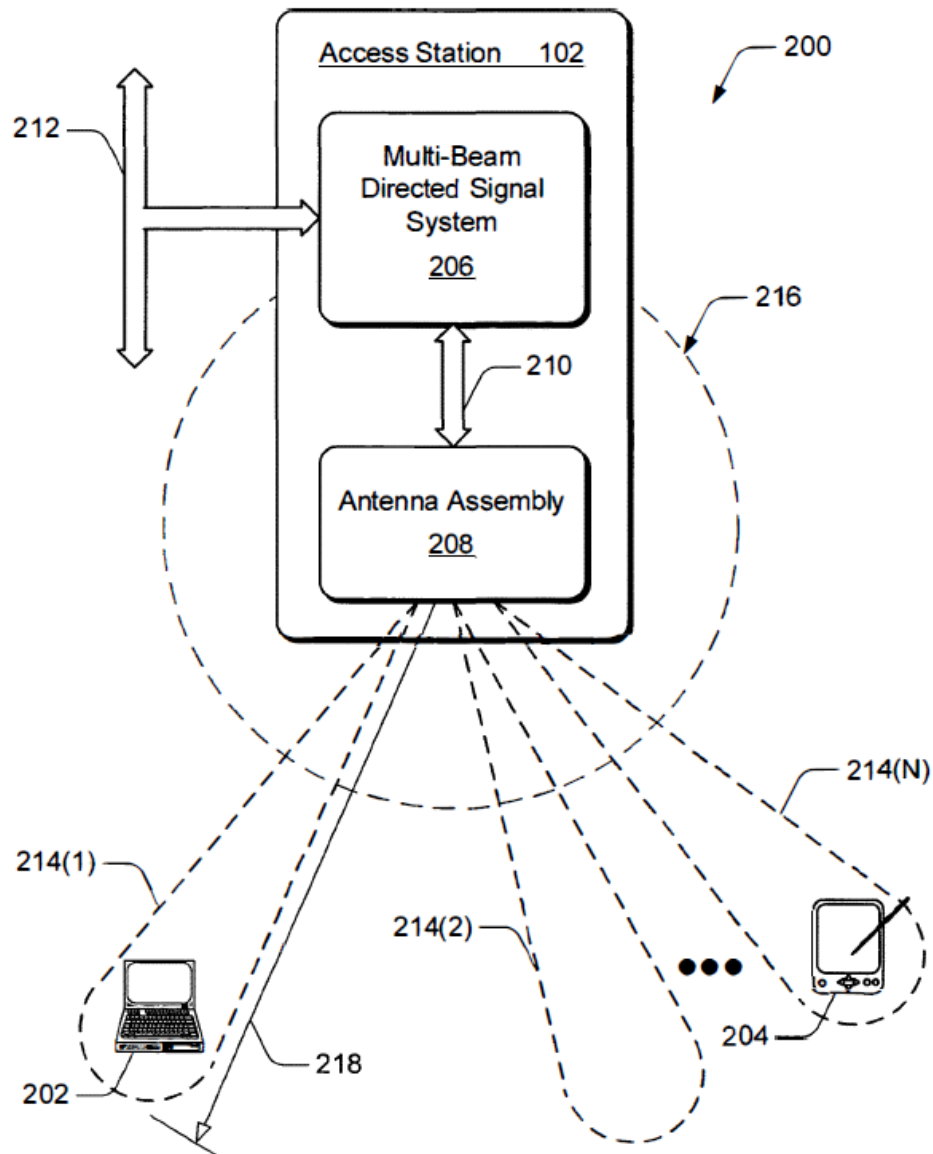
Ex. 1001, 2:8–10. “In a described implementation, a multi-beam directed signal system (e.g., also referred to as an access point or Wi-Fi switch) is a long-range packet switch . . . in accordance with an 802.11 standard.”

Id. at 3:43–47. “[S]imultaneous transmission and reception may occur at a wireless routing device by applying multi-channel techniques.”

Id. at 3:41–43. Further, “[a]n increase in communication range is achieved by beamforming directed communication beams which simultaneously

transmit directed signals and receive communication signals from different directions.” *Id.* at 3:47–51.

Figure 2, reproduced below, “illustrates an exemplary directed wireless communication system 200.” Ex. 1001, 4:44–45.



As shown, “antenna assembly 208 can be implemented as two or more antennas . . . to emanate multiple directed communication beams 214(1), 214(2), . . . , 214(N).” Ex. 1001, 4:54–57. “[C]lient device 202 can communicate via directed communication beam 214(1) with a first channel

of the multi-beam directed signal system 206, and client device 204 can communicate via directed communication beam[] 214(N) with a second channel of the multi-beam directed signal system 206.” *Id.* at 5:16–21.

“Communication and/or data transfer signals . . . are considered desired signals [if] they are from nodes within the wireless routing network.” Ex. 1001, 24:27–31. “[S]ignals such as noise and WLAN interference associated with another external wireless system 1204 are not desired.” *Id.* at 24:31–33. “These signals, both desired and undesired, are received via antenna array 302 [of antenna assembly 208] and are provided to the signal control and coordination logic 304.” *Id.* at 24:34–36; *see also id.* at Fig. 3. Using logic 304, “multi-beam directed signal system 206 is configured to control the transmission amplitude frequency band and directionality of data packets to other nodes[,] and [thereby] assist in reducing noise and interference.” *Id.* at 25:22–29.

“[S]canning receiver 822 [of system 206] . . . is configured to update routing information 1206 with regard to the received signals[and, for example,] . . . may identify information about different classes of interferers . . . within the routing information 1206.” Ex. 1001, 24:41–44; *see also id.* at Fig. 8B. “[R]outing information 1206 includes connection indexed routing table(s) based on identification information, such as . . . identifiers of the desired sources and other identifiers for the desired sources and other identifiers for the interferers.” *Id.* at 24:44–49. “Further, the routing table includes stored weighting values (w) each associated with a particular signal source 1202 [of desired signals.]” *Id.* at 24:49–51. The stored weighting values are used in weighting matrix 1210, which applies

the latest weighting values to received signals and transmitted signals.
Id. at 25:16–19.

E. Challenged Claims

The Petition challenges claims 8–14. Pet. 1. Claim 8 is the sole independent claim, which we reproduce below.

8. A method in a wireless communications system, the method comprising:
- receiving a first signal transmission from a remote station via a first antenna element of an antenna and a second signal transmission from the remote station via a second antenna element of the antenna simultaneously, wherein the first signal transmission and the second signal transmission comprise electromagnetic signals comprising one or more transmission peaks and one or more transmission nulls;
 - determining first signal information for the first signal transmission;
 - determining second signal information for the second signal transmission, wherein the second signal information is different than the first signal information;
 - determining a set of weighting values based on the first signal information and the second signal information, wherein the set of weighting values is configured to be used by the remote station to construct one or more beam-formed transmission signals; and
 - transmitting to the remote station a third signal comprising content based on the set of weighting values.

Ex. 1001, 33:48–34:2.

F. Prior Art and Asserted Grounds

Petitioner asserts that the Challenged Claims are unpatentable based on two grounds:

Claims Challenged	35 U.S.C. §	References/Basis
8–12	103(a)	Burke ¹
13, 14	103(a)	Burke, Shull ²

Pet. 2.

Petitioner relies on the declaration testimony of Dr. Robert Akl (Ex. 1003) in support of these grounds.

The following subsections provide brief descriptions of the asserted prior art references.

1. Burke (Ex. 1006)

Burke, titled “Transmit Pre-Correction in a Wireless Communication System,” issued December 26, 2006 from an application, US 10/271,934, filed October 15, 2002. Ex. 1006, codes (54), (45), (21), (22). The application claims priority to a provisional application, US 60/355,296, filed February 8, 2002. *Id.* at code (60).

Burke “relates generally to wireless communication, and more specifically to an improved method and apparatus for space-time pre-correction of transmitted wireless signals.” Ex. 1006, 1:16–19. Burke addresses a “[m]ultipath . . . condition that occurs when a transmitter transmits a single signal [to] . . . a receiver through multiple signal paths[] each having a different length.” *Id.* at 1:63–65. “The difference in the lengths of the paths may cause different copies of the signal to arrive

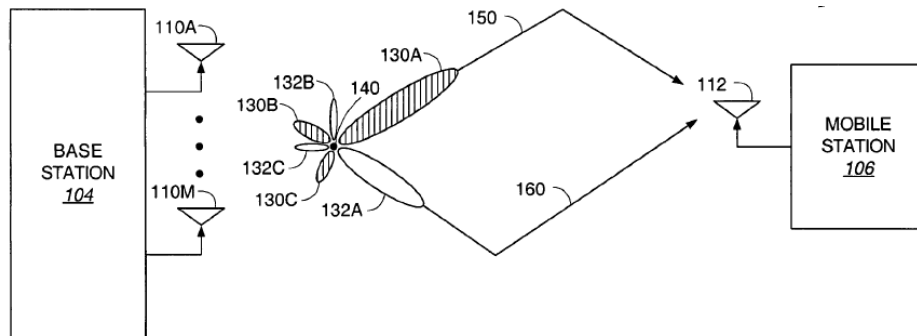
¹ Burke et al., US 7,155,231 B2; issued Dec. 26, 2006 (Ex. 1006, “Burke”).

² Shull, US 6,006,077; issued Dec. 21, 1999 (Ex. 1007, “Shull”).

at different times, causing inter-channel interference.” *Id.* at 1:65–2:1.

“[T]echniques . . . for combating multipath interference [include having the] . . . receiver attempt[] to separate interfering multipaths and combine them to improve receiver performance.” *Id.* at 2:1–5. Burke seeks a system whereby “multi-path interference could be reduced or eliminated before it occurred, thus reducing or eliminating the need for multipath mitigati[on] processing at the receiver.” *Id.* at 2:17–20.

Burke’s Figure 2, reproduced below, depicts wireless communication system 100 whereby “the effects of multipath transmission may be mitigated.” Ex. 1006, 4:6–7, 4:45–46.



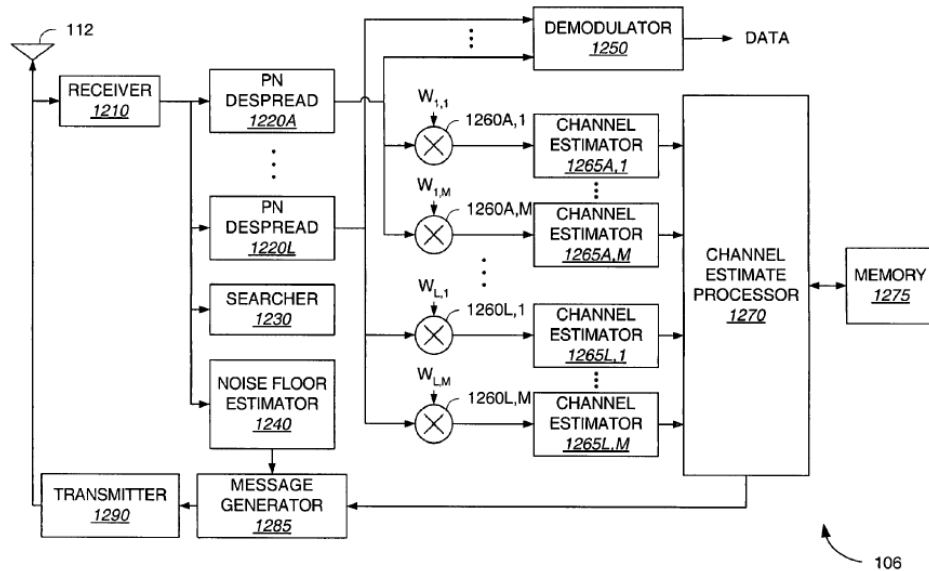
In the system, base station 104 includes transmit antennas 110A–110M that send signals to mobile station 106 through signal paths 150 and 160. Ex. 1006, 4:6–10. Using beamforming, “[b]ase station 104 transmits signals through the antennas 110 such that transmit beam 130 is created for transmitting signals along signal path 150[and, a]t the same time, . . . transmit beam 132 is created for transmitting signals along signal path 160.” *Id.* at 4:10–15. The beam pattern of each transmit beam has a primary lobe pointing along the intended signal path and two side lobes pointing away from the intended signal path; the signal being strongest in the direction of the primary lobe. *Id.* at 4:30–41. For example, “antenna

beam pattern 130 is characterized by a primary lobe 130A and two side lobes 130B and 130C[;] . . . [p]rimary lobe 130A extend[ing] further from center 140 than either side lobe 130B or 130C[to] indicat[e] that a signal transmitted through antenna beam pattern 130 will be strongest in the direction of the primary lobe 130A.” *Id.* at 4:30–37.

To mitigate the effects of multipath transmission, “delays are applied to the signals transmitted along the different signal paths such that they arrive at the antenna 112 of the receiving mobile station 106 at the same time.” Ex. 1006, 4:42–46. “[D]uring optimum performance, pre[-]correction processor 310 produces weights and delays that cause the signals received along the various M multipaths to arrive simultaneously and in-phase.” *Id.* at 7:66–8:3. “[P]re-correction processor 310 . . . may be deployed within the mobile station instead of or in addition to one deployed in the base station 104.” *Id.* at 27:24–26.

In an embodiment “for use with a simultaneously transmitted pilot [signal] and data signal . . . [conveyed on] L paths and M antennas[,] data and pilot are weighted and delayed together[] such that they may be coherently combined when received at a mobile station 106.” Ex. 1006, 7:50–55. “[T]o distinguish the various paths, as well as the per-antenna components contributing to the signal on any path, a code for each path/antenna pair is applied to the pilot to create $M \times L$ unique pilots.” *Id.* at 8:2–6; *see also id.* at Fig. 5 (depicting signal conditioner 320, which is configured for use with a simultaneously transmitted pilot and data signal).

Burke’s Figure 12, reproduced below, “depicts . . . mobile station 106[] configurable for deployment with base station 104 and any of the signal conditioners 320.” Ex. 1006, 25:56–58.



“Signals are received at antenna 112 . . . [and] conditioned in [a] receiver 1210, . . . [e.g.,] amplification, filtering, . . . analog to digital conversion.” Ex. 1006, 25:56–60. “The conditioned signal . . . is delivered to searcher 1230, which identifies one or more received multipaths from one or more base stations 104 . . . [and] assign[s] offsets to . . . PN despreaders 1220A–L.” *Id.* at 26:1–5. “When space time pre-correction is deployed, . . . PN despreaders 1220A–L may . . . despread the L transmitted multipaths.” *Id.* at 26:6–9. “When pre-correction is operating at maximum efficiency, all the L multipaths will arrive time aligned and in-phase at the mobile station 106, [such that] the offset in each PN desreader 1220 will be identical.” *Id.* at 26:16–20. “The output of PN despreaders 1220 may be delivered to demodulator 1250” (*id.* at 26:22–24), which “demodulates those signals to produce the desired data” (*id.* at 27:37–38).

“Walsh covers $W_{1,1}$ – $W_{1,M}$, respectively, are used to isolate the M antenna specific pilots for the first path . . . [and covers] $W_{L,1}$ – $W_{L,M}$ are used to isolate the M antenna specific pilots for the Lth path.” Ex. 1006,

26:35–38. “Walsh decovers 1260 produce $M \times L$ pilot sequences, respectively, for delivery to channel estimators 1265 . . . [that] produce estimates of the phase and magnitude of the pilots corresponding to the component of each of the M antennas contributing to each of the L paths.” *Id.* at 26:44–48. “The channel estimates are delivered to channel processor 1270.” *Id.* at 26:49–50. “Conditioned signals from receiver 1210 are also delivered to noise floor estimator 1240 for calculation of a noise floor estimate.” *Id.* at 26:65–67. “The channel estimates generated in channel processor 1270 and the noise floor estimator 1240 are delivered to message generator 1285[, which] . . . relay[s] the channel and noise estimates to one or more base stations 104 through transmitter 1290 and antenna 112.” *Id.* at 27:5–11.

2. *Shull (Ex. 1007)*

Shull is a U.S. patent titled “Received Signal Strength Determination Methods and Systems,” and issued December 21, 1999, from an application, US 08/942645, filed October 2, 1997. Ex. 1007, codes (54), (45), (21), (22). Shull relates to determining the signal strength of signals received in a communications network. *Id.* at 1:6–8. We reproduce Shull’s Figure 3, below, which is a flowchart illustrating Shull’s signal strength determining method. *Id.* at 4:12–13.

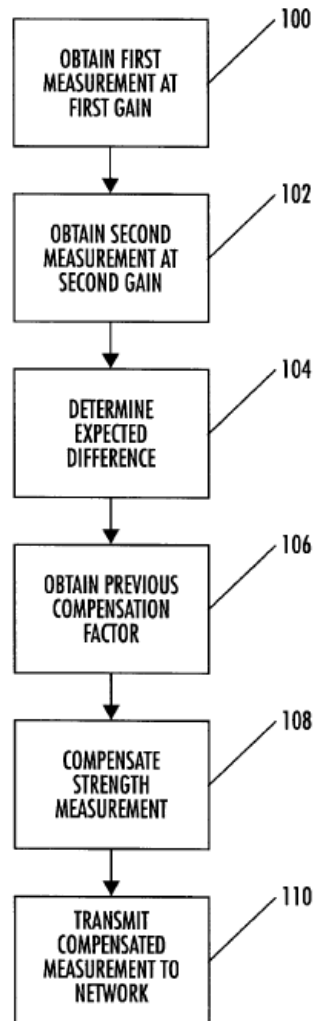


FIG. 3.

At step 100, a receiver is set to a first gain level and a first signal strength measurement of a received signal is obtained. Ex. 1007, 7:63–65. Then, at step 102, the receiver is set to a second gain level and a second signal strength measurement is obtained. *Id.* at 7:65–8:1. At step 104, Shull’s apparatus determines the expected difference between the first signal strength measurement and the second signal strength measurement based on the two gain levels. *Id.* at 8:1–4. “For example, if the gain level is dropped by 20 dB, the expected difference between the two readings would be

20 dB.” *Id.* at 8:4–6. At this step, the apparatus determines the actual difference between the two measurements, by subtracting the two values from steps 100 and 102. *Id.* at 8:6–9.

At step 106, the apparatus retrieves a previously determined compensation factor associated with the second signal strength measurement from memory of the receiver, and the actual difference (from step 104) is compared to the expected difference to provide a signal strength compensating factor. Ex. 1007, 8:10–15. At step 108, the apparatus generates a compensated signal strength measurement, based on the signal strength compensating factor and the previously determined compensation factor associated with the second signal strength measurement, such as “by summing the signal strength compensating factor, the previously determined compensation factor associated with the second signal strength measurement and the first signal strength measurement.” *Id.* at 8:15–25. Finally, at step 110, the apparatus transmits the compensated signal strength measurement from step 108 to the communication network. *Id.* at 8:25–27.

II. ANALYSIS

A. *Burke as Prior Art*

“A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent . . . only on the basis of *prior art* consisting of patents or printed publications.” 35 U.S.C. § 311(b) (2018) (emphasis added). As such, whether an asserted reference qualifies as prior art is a threshold issue in evaluating a petitioner’s grounds of unpatentability. Patent Owner contends that Burke is not prior art, as the ’235 patent claim of priority to a provisional application and the provisional

application's appended documents establish that the invention was conceived and reduced to practice prior to Burke's effective date. Prelim. Resp. 2–21. For the purposes of this Decision, we need only address Patent Owner's contentions directed to the date of conception and actual reduction to practice of the invention claimed in the '235 patent. Before turning to this issue, we review certain portions of the prosecution history of the application that matured into the '235 patent (US Pat. App. 15/495,539, the "'539 application").

1. Prosecution History of the '539 Application

The '539 application claims priority ultimately to a provisional application, No. 60/423,660, filed November 4, 2002. Ex. 1001, code (60); Pet. 10. "The [p]rovisional application includes a compilation of several documents, labeled Appendices A-L on page 2. These documents describe aspects and embodiments of Applicant's invention existing at the time the particular document was written." Ex. 1002, 268; *see* Ex. 1009 (providing the provisional application). This compilation includes "Document A" (which is also referred to as "Appendix A," as it is one of the appendixes of the provisional application), which is titled "Little Joe Functional Specification." Ex. 1009, 6. Document A includes a list of "References," including item "[2] Ed Casas, 'Beamforming for LittleJoe,' *ViVATO Technical Report*, Feb. 1, 2002." *Id.* at 77. Document A does not include any date information, *See id.* at 6, 7, 77.

The compilation of documents included in the provisional application also includes "Document C," which is titled "Beamforming for *Little Joe*." Ex. 1009, 134. Document C does not include any date and has some material from the title page of the document obscured. *See id.* Appendix B

of Document C includes “Program Listings.” *Id.* at 148. These program listings indicate that the author of the “Beamforming Simulation,” “Center of Mass Algorithm,” “Scatterer Generation,” and “Received Signal” programs was Ed Casas, and that these four programs were authored on February 1, 2002. *Id.* at 148, 153, 154–155, 155–156. A fifth program, “Boresight Angle,” indicates that its author was Ed Casas, and it was authored on February 3, 2002. *Id.* at 151–152.

In a Preliminary Amendment to the ’539 application, filed June 19, 2017, the Applicant included independent claim 9, a method claim, and claim 11, which depended from claim 9. Ex. 1002, 1048, 1053. In a July 5, 2017, Office Action, the Examiner rejected claim 9 (and claim 11) as obvious over U.S. Patent Publication 2002/0158801 A1 (“Crilly”) and U.S. Patent 6,714,584 (“Ishii”). *Id.* at 1008, 1017–20, 1021. In this Office Action, the Examiner found that Crilly taught or suggested the subject matter of claim 9, except for the step of “receiv[ing] a first signal transmission from a remote station via the antenna and a second signal transmission from the remote station via the antenna simultaneously.” *Id.* at 1018. The Examiner relied on Ishii for the “simultaneously” subject matter. *Id.* at 1018–19.

The Applicant attempted to traverse the rejection by arguing that Ishii did not teach the subject matter of the “receiving” step. Ex. 1002, 986–987. The Examiner was not persuaded and maintained the rejection. *Id.* at 282–289.

In response to the renewed rejection, the Applicant argued that “at least the disclosure in Document C [of the provisional application] was invented before Crilly was published, and Crilly is not prior art to such

disclosure.” Ex. 1002, 268. The Applicant stated that “[a]t least Document C describes aspects of Applicant’s invention that had been invented at least as early as February, 2002, which is well before Crilly was published.” *Id.* The Applicant emphasized that “[a]s demonstrated by Document C at least the limitations that the Office Action contends are taught by Crilly were invented by Applicant prior to Crilly’s publication.” *Id.* The Applicant then mapped certain disclosures in Document C to certain of the limitations of claim 9. *Id.* at 270–271. In doing this, the Applicant excluded the “simultaneously” language from the “receiving” step, as the Examiner did not rely on Crilly for that subject matter. *See id.* at 270.

In the next Office Action, the Examiner stated that “Applicant’s arguments . . . with respect to the rejection of claims 1-20 . . . over [Crilly and Ishii] . . . have been fully considered and are persuasive.” Ex. 1009, 98³. The Examiner rejected claim 9 over new prior art, but objected to dependent claim 11, which the Examiner stated would be patentable if rewritten in independent form including all of the limitations of claim 9. *Id.* at 104–108, 114. Claim 11 was so amended and ultimately issued as independent claim 8 of the ’235 patent. *Id.* at 46, 91.

2. *Date of Conception and Actual Reduction to Practice*

a) *The parties’ contentions with respect to conception and reduction to practice*

Patent Owner contends that, during prosecution of the application that matured into the ’235 patent, the “Applicant explained” that “the challenged

³ The Examiner’s statement indicates that the arguments were filed October 5, 2017, rather than August 1, 2018. *See* Ex. 1009, 98. This statement appears to be a typographical error. *See id.* at 96 (indicating that the Office Action is responsive to a communication filed August 1, 2018).

claims are entitled to a priority date at least as early as February 1, 2002.” Prelim. Resp. 3; *see also id.* at 5 (“Applicant explained[that] the invention was conceived and reduced to practice at least as early as **February 1, 2002.**”). Patent Owner contends that “the Examiner found these arguments ‘persuasive’ and agreed that the challenged claims are entitled to a priority date at least as early as February 1, 2002.” *Id.* at 3. Patent Owner adds that, “as the Examiner agreed, each element of the challenged claims is disclosed” in Document C. *Id.* at 5–6; *see also id.* at 6 (“The Examiner correctly found that the challenged claims are entitled to a priority date of February 1, 2002[, as t]he ’660 Provisional Application includes an article dated February 1, 2002 that discloses the elements of the challenged claims.”).

Petitioner contends that “Document C does not have a date on its face, its contents do not suggest a particular date of creation, and [the] Applicant did not corroborate its asserted date of February 2002.” Pet. 11. Petitioner argues that “the only evidence upon which [the] Applicant relied to support its attempt to antedate Crilly was a self-serving, uncorroborated date of February 2002.” *Id.* Petitioner concludes that citing to a document (the provisional application) filed many months after the alleged date of conception is not sufficient to establish a date of conception. Pet. 12. Petitioner adds that, during prosecution, the Applicant did not file an affidavit attesting to the conception and reduction to practice of the invention, arguing that the Applicant’s evidence is uncorroborated. *Id.*

Petitioner also argues that the Applicant did not argue to the Office that it had conceived the invention of issued claim 8. Pet. 12. Instead, the Applicant merely stated that the limitations for which the Examiner relied on

Crilly were disclosed in Document C, and Petitioner adds that that these limitations did not include the complete subject matter of claim 8. *Id.* at 12–13.

With respect to corroboration, Patent Owner responds that an affidavit is not necessary where contemporaneous documentary evidence corroborates the alleged priority date. Prelim. Resp. 6; *see also id.* at 8 (citing case law for position that “[l]ongstanding precedent confirms . . . documentary corroborating evidence is more than sufficient.”). Patent Owner further responds that “Document A and Document C in the [provisional application] corroborate an invention date of February 1, 2002.” *Id.* at 9–10. That is, Patent Owner relies on the listing of “[2] Ed Casas, ‘Beamforming for LittleJoe,’ *ViVATO Technical Report*, Feb. 1, 2002,” in Document A, as establishing the date of Document C, which has the title “Beamforming for *Little Joe*.” Prelim. Resp. 6; *see* Ex. 1009, 77, 134. Patent Owner contends that Document C includes a program listing with a February 1, 2001, date, corroborating the date evidence. *See* Prelim. Sur-reply 3.

As to actual reduction to practice, Petitioner contends that the “Applicant never alleges that Document C represents a reduction of the claimed invention to practice.” Pet. 14. Petitioner adds that “Document C only purports to explain the outcome of modeling based on a computer simulation, which is not a physical embodiment.” *Id.* (referencing Ex. 1009, 143; Ex. 1003 ¶ 55). Petitioner argues that, “[w]ithout proof of an actual reduction to practice . . . , [Patent Owner] would need to show diligence between the alleged conception set forth in Document C and constructive reduction to practice represented by the filing of the” provisional application. *Id.*

Patent Owner responds that “Document C also proves that reduction to practice had occurred at least as early as February 1, 2002.” Prelim. Resp. 14. Patent Owner argues that even if Document C were limited to describing a “computer simulation,” that would still qualify as a physical embodiment and a reduction to practice of the claimed invention. *Id.* Patent Owner adds that the content of Document C proves that “the Little Joe architecture [] pre-dated the ‘simulation code,’” and “that the Little Joe architecture was reduced to practice before any ‘simulation code’ was written.” *Id.* at 14–15.

b) Analysis and conclusions

To antedate Burke, Patent Owner must “prove (1) a conception and reduction to practice before the filing date of [Burke] or (2) a conception before the filing date of [Burke] combined with diligence and reduction to practice after that date.” *See REG Synthetic Fuels, LLC v. Neste Oil Oyj*, 841 F.3d 954, 962 (Fed. Cir. 2016). Under either prong, Patent Owner must prove that it conceived of the invention of claim 8 of the ’235 patent prior to October 15, 2002⁴. *See* Ex. 1005, code (22).

“Conception is ‘the formation, in the mind of the inventor of a definite and permanent idea of the complete and operative invention, as it is thereafter to be applied in practice,’ . . . [and] must include every feature or

⁴ Petitioner argues that Burke is entitled to priority to its provisional application filing date of February 8, 2002. Pet. 2 n.1; Ex. 1006, code (60). Because we decide that Patent Owner has not sufficiently demonstrated, on the current record, a priority date prior to the filing date of the provisional application in the ’235 patent priority chain (November 4, 2002), we need not determine, at this stage of the proceeding, if Burke is entitled to an effective filing date of February 8, 2002.

limitation of the claimed invention.” *REG Synthetic Fuels, LLC*, 841 F.3d at 962 (citations omitted). “Conception must be proved by corroborating evidence which shows that the inventor disclosed to others [the inventor’s] ‘completed thought expressed in such clear terms as to enable those skilled in the art’ to make the invention.” *Id.* (citations omitted).

We determine, on the current record, that Patent Owner fails to prove that the invention of claim 8 of the ’235 patent was conceived and reduced to practice no later than February 1, 2002, as Patent Owner contends. As an initial matter, we do not agree with Patent Owner that the Examiner, during examination of the application that matured into the ’235 patent, found that the Challenged Claims are entitled to a priority date at least as early as February 1, 2002. *See* Prelim. Resp. 3–6. As Petitioner correctly states, the Applicant’s arguments concerning the date of invention during prosecution were limited to the claim limitations for which the Examiner relied on Crilly. *See* Pet. 10; Ex. 1002, 268; *see also* Ex. 1002, 270–271 (mapping the elements of original claim 9 to the disclosure of Document C, but not the “simultaneously” subject matter of the “receiving” step). Also, independent claim 8, as issued, includes the limitation of original claim 11—subject matter that the Applicant did not map to Document C of the provisional application. Accordingly, we do not agree that the Examiner found that the subject matter of claim 8, as issued, was invented at least as early as February 1, 2002.

Next, we determine that the current record does not sufficiently support Patent Owner’s contention that Document C of the provisional application is entitled to a February 1, 2002, date. We note that the documents that make up the provisional application, including Document C,

do not themselves contain dates on their faces. *See, e.g.*, Ex. 1009, 6 (providing the title page of Document A, with no date (but with what looks like a redacted footer)), 6 (providing the “Document History” page of Document A, but with no dates), 134 (providing the title page of Document C, with no date (but with what looks like a redacted footer and other redacted information)).

Patent Owner relies on a citation in Document A to a Vivato Technical Report entitled “Beamforming for LittleJoe,” authored by Ed Casas and dated February 1, 2002, to support Patent Owner’s contention that the invention of claim 8 was conceived and reduced to practice no later than February 1, 2002. *See* Prelim. Resp. 5–6; Ex. 1009, 77. Patent Owner then contends that this citation is to Document C, which is titled “Beamforming for *Little Joe*.” *See* Prelim. Resp. 5–6; Ex. 1009, 134. We determine, however, that the single citation in the Vivato Technical Report to a February 1, 2002 date for a document with the same name as Document C is insufficient to demonstrate that the invention of claim 8 was conceived and reduced to practice no later than February 1, 2002. Document C does not identify its author. *See, e.g.*, Ex. 1009, 134 (providing the title page of Document C, with no author (but with a redacted portion where author’s names may have been)). Also, dates contained within Document C are inconsistent with a finding that Document C was issued as a technical report on February 1, 2002. For example, Appendix B of Document C includes an inconsistent date in the program listings, that is, in the lines of code that make up certain programs used in the analysis documented in Document C. *See* Ex. 1009, 148–158. Specifically, the “Boresight Angle” program has a

date of February 3, 2002—a date after the purported issue date of Document C. *Id.* at 151–152.

Patent Owner uses one of the dates from Document C’s Appendix B (the “Program Listings”) to corroborate its contention that Document A’s reference to the February 1, 2002 Vivato Technical Report is a reference to Document C. Patent Owner directs us to the date of the “Beamforming Simulation” program listing, dated February 1, 2002, and authored by Ed Casas. *See* Prelim. Resp. 6; Ex. 1009, 148. Indeed, we recognize that all of the program listings indicate that Ed Casas authored the *programs*, and that all but one of the programs were authored on February 1, 2002. Patent Owner does not adequately explain, however, how a technical report that “evaluate[s] . . . beamforming options for . . . Little Joe 802.11 WLAN access point (AP)” was issued on February 1, 2002 when the computer programs used in the evaluation state they were authored on that date. *See* Ex. 1009, 134. A reasonable inference from the information in Document C may be that the programs in Appendix B were used for simulations subsequently documented in Document C. *See, e.g.*, Ex. 1009, 140–141 (providing the calculation of beamforming weights using three different methods, including one method using the boresight angle), 141–142 (providing the results of the modeling). Patent Owner, however, has not sufficiently demonstrated how analyses using computer programs “authored” February 1, 2002 (and one, on February 3, 2002) would have been performed and documented in a technical report issued on February 1, 2002. That is, it seems unlikely, without any other supporting factual evidence, that a report on results of analyses would be completed on the

same day (or two days before) the programs used as part of the analyses were written.

For the above reasons, we determine that Patent Owner has not sufficiently demonstrated, on the current record, that the invention of claim 8 was conceived and actually reduced to practice no later than February 1, 2002.⁵

III. ANALYSIS OF PETITIONER’S CHALLENGES

A. *Applicable Law*

Petitioner’s asserted grounds of unpatentability are based on obviousness under 35 U.S.C. § 103.

Section 103(a) forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”

KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when available, objective evidence, such as

⁵ Because we determine that the documentary evidence is not sufficient to establish a February 1, 2002, date, we do not need to determine, at this stage of the proceeding, if the evidence is sufficient to demonstrate that the invention of claim 8 was actually reduced to practice. We also do not need to determine, at this stage of the proceeding, if Document C provides support for each limitation of claim 8. Patent Owner is free to provide additional evidence and arguments to support its contentions with respect to conception and reduction to practice during trial.

commercial success, long felt but unsolved needs, and failure of others.

Graham v. John Deere Co., 383 U.S. 1, 17–18 (1966).

“[O]bviousness must be determined in light of *all the facts*, and . . . a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine” teachings from multiple references. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (emphasis added); *see also PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1196 (Fed. Cir. 2014) (“The presence or absence of a motivation to combine references in an obviousness determination is a pure question of fact.”).

B. Level of Ordinary Skill in the Art

The level of skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). Petitioner contends:

A person of ordinary skill in the art at the time of the ’235 Patent . . . would have had a Bachelor of Science degree in an academic discipline emphasizing electrical engineering or a related field, in combination with training or at least two years of related work experience in wireless communication systems, or the equivalent. Alternatively, the person could have also had a Masters or Doctorate degree in electrical engineering with a year of related work experience in wireless communication systems.

Pet. 3 (citing Ex. 1003 ¶¶ 24–26). Patent Owner does not address the level of ordinary skill in the art at this stage of the proceeding.

For the purposes of this Decision, we apply Petitioner’s definition of the level of ordinary skill in the art. We determine that this definition is consistent with the prior art of record and the skill reflected in the Specification of the ’235 patent, based on our review of the limited record.

C. Claim Construction

In *inter partes* reviews, we interpret a claim “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). Under this standard, we construe 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.*

Petitioner states that “[n]o formal claim constructions are necessary for this petition.” Pet. 3. Patent Owner also does not propose any constructions.

We determine that we need not expressly construe any claim terms to resolve the parties’ disputes on the current record. *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.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). To the extent that the scope of any particular claim term requires discussion, however, we provide it in our assessment of the challenges, which we turn to next.

D. Ground 1: Claims 8–12 as unpatentable over Burke

Petitioner contends that Burke teaches or suggests each limitation of claims 8–12. Pet. 20–48. Patent Owner does not dispute Petitioner’s contentions at this stage of the proceeding.

1. Independent claim 8

We turn our analysis first to the scope and content of the prior art and any differences between the prior art and the subject matter of independent claim 8, on a limitation-by-limitation basis.

a) Preamble

The preamble of claim 8 recites “[a] method in a wireless communications system.” Ex. 1001, 33:48–49. Petitioner contends that Burke discloses “wireless communication system 100.” Pet. 25–26 (referencing Ex. 1006, Fig. 1, Abstr., 1:16–19, 3:27–44, 2:27–45; Ex. 1003, ¶ 82).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Burke teaches or suggests the subject matter of the preamble. In view of this determination, we need not resolve, at this stage of the proceeding, whether the preamble is limiting.

b) The receiving step

Claim 8 recites “receiving a first signal transmission from a remote station via a first antenna element of an antenna and a second signal transmission from the remote station via a second antenna element of the antenna simultaneously.” Ex. 1001, 33:50–53 (the “receiving” step of claim 8). Petitioner contends that, “[a]s shown . . . in Burke’s FIG. 2, Burke’s mobile station 106 receives a first signal transmission through signal path 150 and a second signal transmission through signal path 160 from the base station 104 (‘remote station’).” Pet. 26 (emphases omitted). Petitioner further contends:

The base station 104 and the mobile station 106 can use an array of antennas to communicate information with each other and other devices. Burke teaches that the array of antennas 110A–110M can “be used to transmit signals to one user . . . simultaneously” and that each antenna in the array can be used to transmit a signal over an individual path.

Pet. 27 (referencing Ex. 1006, 5:18–20, 5:54–55, 8:42–51, 25:58–61).

Further addressing the “simultaneously” subject matter, Petitioner contends the “a feedback mechanism is provided . . . so that one of the signals can be delayed, as desired, to ensure signals are received simultaneously at the mobile station 106.” Pet. 29–30 (referencing Ex. 1006, 7:66–8:2, 5:9–32; Ex. 1003 ¶ 86).

The receiving step also recites “wherein the first signal transmission and the second signal transmission comprise electromagnetic signals comprising one or more transmission peaks and one or more transmission nulls.” Ex. 1001, 33:54–57.

Petitioner contends that Burke teaches that electromagnetic signals received from paths 150 and 160 include transmission peaks and nulls. Pet. 31 (referencing Ex. 1003 ¶ 89). Petitioner explains that for “antenna pattern 130, nulls exist between lobes 130A and 130B, between lobes 130B and 130C, and between 130C and 130A, . . . [and] pattern 130 is formed such that its primary lobe 130A is placed within or nearly within the null between lobes 132A and 132B of antenna beam pattern 132.” *Id.* (quoting Ex. 1006, 4:50–55). Petitioner adds that “antenna beam pattern 132 is formed such that its primary lobe 132A is placed within or nearly within the null between lobes 130A and 130C of antenna beam pattern 130.” *Id.* (quoting Ex. 1006, 55–58).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Burke teaches or suggests the subject matter of the receiving step of claim 8.

c) First and second signal information steps

Claim 8 also recites “determining first signal information for the first signal transmission; and determining second signal information for the second signal transmission, wherein the second signal information is different than the first signal information.” Ex. 1001, 33:58–62 (the “first and second signal information” steps of claim 8). Petitioner contends that the signals received from paths 150 and 160 are received at mobile station 106 and are conditioned in receiver 1210 to determine the signal information. Pet. 33 (referencing Ex. 1006, 25:56–67, Fig. 12; Ex. 1003 ¶ 90).

Petitioner contends the claimed difference in signal information is taught by the following differences (among other differences) in the signal information of Burke’s signal paths:

Burke teaches that[,] in conditioning signals for transmission and to distinguish the various signal paths, “a code for each path/antenna pair is applied to the pilot to create $M \times L$ unique pilots. The $M \times L$ pilots are generated by Walsh covering (or other encoding).” To perform channel estimation at the receiver, Burke utilizes Walsh codes in Walsh covers to isolate M antenna pilots for respective paths (1 to L paths, e.g., first and second paths) and Walsh decoders 1260 produce $M \times L$ pilot sequences, respectively, for delivery to channel estimators 1265.

Pet. 35 (referencing Ex. 1006, 8:1–10, 26:45–50). Petitioner further explains that channel estimator 1265 estimates the channel noise for each signal. *Id.* at 35–36 (referencing Ex. 1006, 36:65–67, 27:5–11, 28:36–29:60, Figs. 15–17; Ex. 1003 ¶ 92). Petitioner concludes that it would have been obvious to a person having ordinary skill in the art that mobile station 106 would receive the two signals, and determine the information in those signals, including the unique pilot information and noise information for each signal

and other demodulated data. *Id.* at 39 (referencing Ex. 1006, 26:1–27:39; Ex. 1003 ¶ 93).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Burke teaches or suggests the subject matter of the “first and second signal information” steps of claim 8.

d) weighting values step

Claim 8 also recites “determining a set of weighting values based on the first signal information and the second signal information, wherein the set of weighting values is configured to be used by the remote station to construct one or more beam-formed transmission signals.” Ex. 1001, 33:63–67 (the “weighting values” step of claim 8). Petitioner contends that, in Burke,

path delay information and estimates of the phase and magnitude of the pilots corresponding to the component of each of the M antennas contributing to each of the L paths are determined as part of the first signal information and the second signal information. The pre-correction processor 310 can then calculate weights and delays based on channel and noise estimates determined, at least in part, based on the pilot phase and magnitude and path delay information.

Pet. 40 (referencing Ex. 1006, 27:22–35, 26:45–27:39; Ex. 1003 ¶ 98).

Petitioner explains that Burke teaches that pre-correction processor 310, which calculates Burke’s weighting values, can be implemented on mobile station 106 as an alternative to implementing the processor 310 on base station 104. Pet. 41; *see also* Ex. 1006, 27:25–31 (“[P]re-correction processor 310 . . . may be deployed within the mobile station instead of or in addition to one deployed in the base station 104. In this alternative, the channel and noise estimates are delivered to the pre-

correction processor, weights and/or delays are calculated and transmitted to the base station . . .”). Petitioner adds that “[t]he calculated weights can then be ‘transmitted to the base station via message generator 1285, transmitter 1290, and antenna 112.’” Pet. 41 (referencing Ex. 1006, 27:22–35; Ex. 1003 ¶ 99).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Burke teaches or suggests the subject matter of the weighting values step of claim 8.

e) Third signal step

Finally, claim 8 recites “transmitting to the remote station a third signal comprising content based on the set of weighting values.” Ex. 1001, 34:1–2 (the “third signal” step of claim 8). Petitioner contends that

Burke teaches that the mobile station 106 transmits a message that includes a set of weight values to the base station 104. It would have been obvious to a [person having ordinary skill in the art] that the message is transmitted through a signal and consequently that the mobile station 106 transmits a third signal (different from the first signal and second signal received from the remote station) that includes the message comprising content based on the set of weighting values determined by the mobile station 106 to the base station 104 via the antenna 112.

Pet. 43–44 (referencing Ex. 1006, 27:5–31, 5:29–32, 5:65–6:4; Ex. 1003 ¶ 101).

Upon review of the information in the Petition and corresponding evidence, we determine Petitioner has made a sufficient showing, at this stage of the proceeding, that Burke teaches or suggests the subject matter of the “third signal” step of claim 8.

f) Conclusion

For the reasons discussed above, we determine, on the current record, that the information presented in the Petition shows a reasonable likelihood that claim 8 is unpatentable under 35 U.S.C. § 103 over Burke.

2. Dependent claims 9–12

Petitioner also contends that dependent claims 9–12 are unpatentable as obvious over Burke. Pet. 2, 44–48. As we discuss above, Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '235 patent is unpatentable, and we institute on all challenges raised in the Petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”); Patent Trial and Appeal Board Consolidated Trial Practice Guide 64 (Nov. 2019) (“The Board will not institute on fewer than all claims or all challenges in a petition.”), *available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated> (“CTPG”).

Still, we have reviewed Petitioner’s contentions and citations to the evidence and determine that Petitioner has made a sufficient showing, on the current record, that dependent claims 9–12 are unpatentable under 35 U.S.C. § 103 over Burke.

E. Ground 2: Claims 13 and 14 as unpatentable over Burke and Shull

Petitioner contends that the combined teachings of Burke and Shull render obvious the subject matter of claims 13 and 14. Pet. 2, 48–58. We have reviewed Petitioner’s contentions and citations to the evidence and

determine that Petitioner has made a sufficient showing, on the current record, that dependent claims 13 and 14 are unpatentable under 35 U.S.C. § 103 over Burke and Shull. As part of this review, we determine, on the current record, that Petitioner has sufficiently demonstrated, at this stage of the proceeding, that a person having ordinary skill in the art would have had reason to combine Shull’s teachings of calculating a Radio Signal Strength Indication as part of Burke’s system, and would have had a reasonable expectation of success in combining the teachings of Burke and Shull. *See* Pet. 49–51.

Patent Owner does not dispute Petitioner’s contentions at this stage of the proceeding with respect to Ground 2.

F. Discretion under 35 U.S.C. § 314(a) - Fintiv

Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) and not institute trial, given the state of the parallel district court litigation. Prelim. Resp. 3–19. For the reasons stated below, we do not exercise our discretion to deny institution in view of the parallel proceeding.

Institution of an *inter partes* review is discretionary. *See* 35 U.S.C. § 314(a) (authorizing institution of an *inter partes* review under particular circumstances, but not requiring institution under any circumstances); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”); *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) (“[Section] 314(a) invests the Director with discretion on the question whether to institute review” (emphasis omitted)); *Harmonic Inc. v. Avid*

Tech., Inc., 815 F.3d at 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”).

When determining whether to exercise discretion to deny institution in view of a parallel proceeding, we consider the following factors:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). “These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.*; *see also* “Interim Procedure for Discretionary Denials in AIA Post-grant Proceedings with Parallel District Court Litigation” (June 21, 2022) (“Interim Procedure”)⁶.

We address the *Fintiv* factors below and explain our reasons for not exercising discretion to deny institution based on § 314(a).

⁶ The Interim Procedure is available under the “Guidance Memorandum” heading on the “Resources and guidance” page for the Patent Trial and Appeal Board, located at <https://www.uspto.gov/patents/ptab/resources>.

1. *Likelihood of a stay*

A district court stay of parallel litigation pending resolution of an *inter partes* review allays concerns about inefficiency and duplication of efforts, which strongly weighs against exercising the authority to deny institution. *Fintiv* at 6. Petitioner contends “[f]actor 1 is neutral because Petitioners/Defendant(s) and Patent Owner/Plaintiff have not, as of yet, requested a stay (e.g., pending the result of IPR) in co-pending litigation.” Pet. 59 (citations omitted).

Patent Owner contends “[t]his factor weighs against institution” because “Defendants have never moved for a stay, nor is there any indication that defendants will move for a stay.” Prelim. Resp. 23.

The record indicates that no stay exists at present in the district court proceeding. This fact is tempered, somewhat, by a pending motion to transfer the litigation to a different venue, which could obviate a need for a stay in the current litigation. *See* Prelim. Reply 1–2. Accordingly, this factor is neutral.

2. *Proximity of trial date to projected statutory deadline*

Petitioner contends “factor 2 []does not weigh for or against denying institution” because “the estimated district court trial date and the projected [Final Written Decision] date are around the same time.” Pet. 60 (citations and internal quotation marks omitted). Petitioner elaborates that, “[b]ased on the parallel district court’s example schedule for patent cases, the trial date is estimated to be scheduled for June 2023, which is around the same time or just a few weeks before a [Final Written Decision] in this IPR proceeding would likely issue.” *Id.* at 59–60. Further, Petitioner contemplates the district court trial date being delayed by “continued

outbreaks of COVID-19 are likely” and increased backlogs of district court litigations caused by prior outbreaks. *Id.* at 60 (citations omitted).

Also, Petitioner indicates that the *Markman* hearing has already been delayed two weeks and that Petitioner has “submitted a motion to transfer the case to the United States District Court for the Northern District of California.” Prelim. Reply 1. Petitioner contends that the district court will likely rule on the transfer motion before conducting a *Markman* hearing, which would further delay the schedule. *Id.* at 1–2.

Patent Owner contends that “Petitioners’ argument . . . is nothing more than a baseless assertion, as the parties agreed that trial should proceed in June 2023,” and the “statutory deadline for the [Final Written Decision] . . . would be in July 2023.” Prelim. Resp. 24. Patent Owner elaborates that “the parties jointly filed the scheduling orders in the respective cases, and the court granted those scheduling orders without modification. *See* Exs. 2003–2004.” *Id.* at 25. Patent Owner also argues that there is no evidence that the delay in the *Markman* hearing will delay other aspects of the schedule, making Petitioner’s arguments speculative. Prelim. Sur-reply 1.

Although the record shows that a trial could proceed in June 2023, this date is about one month before the statutory deadline for a Final Written Decision in this proceeding—not so close as to be imminent, but still prior to our Final Written Decision. We acknowledge Petitioner’s argument that the lingering pandemic may yet affect trial dates, but we will not speculate on that issue here. We note, however, that current statistics for the U.S. District Court for the Western District of Texas shows a median time from filing to trial in a civil proceeding to be 27.2 months. *See* “U.S. District Courts—

Federal Court Management Statistics—Profiles—During the 12-Month Periods Ending March 31, 2017 Through 2022,” available at <https://www.uscourts.gov/statistics/table/na/federal-court-management-statistics/2022/03/31-1> (last visited June 22, 2022); Interim Procedure 8–9. Applying that median time to trial here, trial would occur about three months after the Final Written Decision is due. *See, e.g.*, Ex. 1018, 25 (showing the complaint against Petitioner HP Inc. dated July 1, 2021).

We therefore determine that the facts pertaining to this factor weigh neutral or slightly in favor of not exercising our discretion to deny institution under § 314(a).

3. *Investment in the parallel proceeding*

Petitioner contends the parties have not yet made a substantial investment in the litigation because:

[N]o Scheduling Order has been entered yet[.] . . . There have been no deposition testimony or discovery responses in this action related to technical matters[.] . . . [A] *Markman* hearing . . . is not projected to occur until six months after the filing of this petition. Patent Owner’s invalidity contentions are not projected to be due until February 14, 2022. No claim construction briefs have been submitted[. And,] no substantive orders have been issued by the court.

Pet. 62 (citations omitted). Petitioner further contends: it “ha[s] made diligent efforts and substantial investment in preparing this IPR petition” (*id.*); “a petition filed two months before bar date is ‘well within the timeframe allowed by statute, weighing heavily in . . . favor’” of institution (*id.* (quoting *Mylan Pharma. Inc. v. Sanofi-Aventis Deutschland GMBH*, IPR2018-01680, Paper 22 at 18 (PTAB Apr. 3, 2019))); and “[j]ust two and a half weeks before the filing of this petition[] Patent Owner served its infringement contentions” (*id.* (citing Ex. 1020)). Petitioner adds that the

delay in the *Markman* hearing pending a decision on the transfer motion means that “fewer resources will have been expended by the time the institution decision is issued.” Prelim. Reply 2.

Patent Owner contends that, “[i]mportantly, this factor is judged from the date of the institution decision, which is expected to be in July 2022.” Prelim. Resp. 26. Patent Owner further contends the following investment in the district court that has been made or will be made by July 2022:

While the Petitioner[] [was] correct that []the district court litigation is in the very early stages and no Scheduling Order has been entered yet,[] this is no longer the case[;] . . . the parties in the district court case have already exchanged infringement and invalidity contentions, and begun the claim construction process, with the *Markman* hearing scheduled for June 16, 2022, more than a month before the FWD deadline here.

Id. at 27. And, Patent Owner responds as follows to Petitioner’s alleging of substantial investment in this IPR petition:

Petitioner[] notes that they “have made diligent efforts and substantial investment in preparing this IPR petition” which includes only two of the more than forty charted references that are part of their invalidity contentions. Pet. at 62. It stands to reason that Petitioner[] [has] expended far more resources in the district court case regarding the issue of validity than they have here.

Id. at 26.

The parties have performed some, but not substantial work. Also, Patent Owner focuses on the parties’ investment in the parallel litigation, without mentioning any substantial investment by the district court. Patent Owner does not direct us to any substantive ruling by the district court, whether on claim construction or other issues. Further, we find Petitioner acted with diligence in filing the Petition, as the Petition was filed less than

one month after Patent Owner served its asserted claims and infringement contentions. Considering the above facts, we find this factor weighs in favor of not exercising our discretion to deny institution under § 314(a).

4. *Overlap of issues*

Concerns about the degree of overlap in a requested IPR proceeding and parallel district court litigation may be mitigated where the petitioner agrees not to pursue in the litigation the grounds advanced in the petition. *Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 11–12, 12 n.5 (PTAB June 16, 2020). A petitioner stipulating not to pursue “any ground raised or that could have been reasonably raised” weighs strongly in favor of not exercising discretionary denial. *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18–19 (PTAB Dec. 1, 2020) (precedential as to § II.A) (“*Sotera*”); *see also* Interim Procedure, 7 (citing *Sotera*). Petitioner, however, does not stipulate that it will forego in the litigation any ground raised or that could have been reasonably raised in the Petition. *See* Pet. 63 at n.8 (“Petitioner[] reserve[s] the right to later . . . stipulat[e] that it will not pursue certain grounds in the district court litigation.”). Instead, Petitioner sent a letter to Patent Owner’s counsel stating that it would not pursue any grounds in the district court litigation that are instituted in this proceeding. Prelim. Resp. 2–3.

Patent Owner contends that Burke and Shull are also asserted as references in the district court invalidity contentions as to obviousness. Prelim. Resp. 26–27 (referencing Ex. 2008, 10–11 (providing excerpts of “Defendants’ Preliminary Invalidity Contentions”)). Patent Owner adds that, despite Petitioner’s stipulation, “overlapping issues remain.” Prelim.

Sur-reply 2. Patent Owner explains that Burke is asserted as an anticipatory reference in the litigation. *Id.* Patent Owner also argues that Petitioner ignores possible conflicts between its claim construction positions in this proceeding and in the district court. *Id.* at 2.

Considering the above-identified overlap, we find this factor weighs slightly in favor of not exercising our discretion to deny institution under § 314(a).

5. *Identity of parties*

Both Petitioner and Patent Owner are parties to the parallel litigation. Therefore, this factor weighs in favor of exercising our discretion to deny institution under § 314(a). *Fintiv*, Paper 11 at 13–14.

6. *Other circumstances, including the merits*

As we discuss above, we find that Patent Owner’s arguments directed to the priority of the claims are insufficient on the current record, but that other evidence could be developed at trial. Also, Patent Owner does not, at this stage of the proceeding, identify any weaknesses in Petitioner’s unpatentability positions. Considering other circumstances, including the merits of Petitioner’s obviousness grounds, this factor weighs neutral.

7. *Conclusion*

We have considered the circumstances and facts before us in view of the *Fintiv* factors. Absent a compelling reason to the contrary, we take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review” when evaluating these factors. *Fintiv*, Paper 11 at 6; Interim Procedure. Having evaluated all of the factors on this record, we determine that the circumstances presented here do not support exercising our discretion under § 314(a) to deny institution of this

inter partes review. Significant in our determination is that the district court trial is likely to occur near or after the issue date of our Final Written Decision, that Petitioner acted diligently to file the Petition, and that the district court litigation is still in its early stages and awaiting a ruling on a motion to transfer.

IV. CONCLUSION

Based on the information presented, we determine Petitioner has established a reasonable likelihood that it would prevail with respect to at least one of the Challenged Claims. Accordingly, we institute an *inter partes* review on all challenges.

V. 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 as to claims 8–14 of U.S. Patent No. 10,715,235 B2;

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 Order.

IPR2022-00367
Patent 10,715,235 B2

For PETITIONER:

W. Karl Renner
David Holt
Usman A. Khan
FISH & RICHARDSON P.C.
axf-ptab@fr.com
holt2@fr.com
khan@fr.com

For PATENT OWNER:

Reza Mirzaie
Philip Wang
RUSS, AUGUST & KABAT
rmirzaie@raklaw.com