

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG ELECTRONICS AMERICA, INC., and GOOGLE LLC,
Petitioner,

v.

XR COMMUNICATIONS LLC,
Patent Owner.

IPR2022-01362
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
Granting Motion for Joinder
35 U.S.C. § 315(c); 37 C.F.R. § 42.122

I. INTRODUCTION

A. *Background and Summary*

Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Google LLC (collectively, “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 4 (“Pet.”), 1. Concurrently, Petitioner filed a Motion for Joinder pursuant to 35 U.S.C. § 315(c) and 37 C.F.R. §§ 42.122(b) (2022), seeking to be joined as a party to *Apple Inc. v. XR Communications LLC*, Case No. IPR2022-00367 (the “Apple/HP IPR”), which was instituted on July 14, 2022, and also challenges claims 8–14 of the ’235 patent. Paper 5 (“Motion” or “Mot.”), 1; *see also* IPR2022-00367, Paper 10 (providing the Decision on Institution)¹.

XR Communications LLC (“Patent Owner”) did not file a Preliminary Response to the Petition or an opposition to the Motion.

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) (2022) (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 that follow, we determine that institution of *inter partes* review is warranted on the same grounds instituted in the Apple/HP IPR, and we grant Petitioner’s Motion.

¹ Amazon.com, Inc. and Amazon.com Services LLC were joined to IPR2022-00367 on January 26, 2023. *See* IPR2022-01352, Paper 7.

B. Real Parties-in-Interest

Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Google LLC identify themselves as the real parties-in-interest. Pet. 64. Patent Owner identifies itself as the real party-in-interest. Paper 7, 1.

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.). Pet. 64; Paper 7, 1–2.

The parties also identify the following Patent Office proceedings related to the '235 patent: *Amazon.com, Inc., et al v. XR Communications LLC*, IPR2022-01353 (PTAB); *Apple Inc., et al v. XR Communications LLC*, IPR2022-01155 (PTAB); *Apple Inc., et al v. XR Communications LLC*, IPR2022-00367 (PTAB). Pet. 64–65; Paper 7, 1.

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).

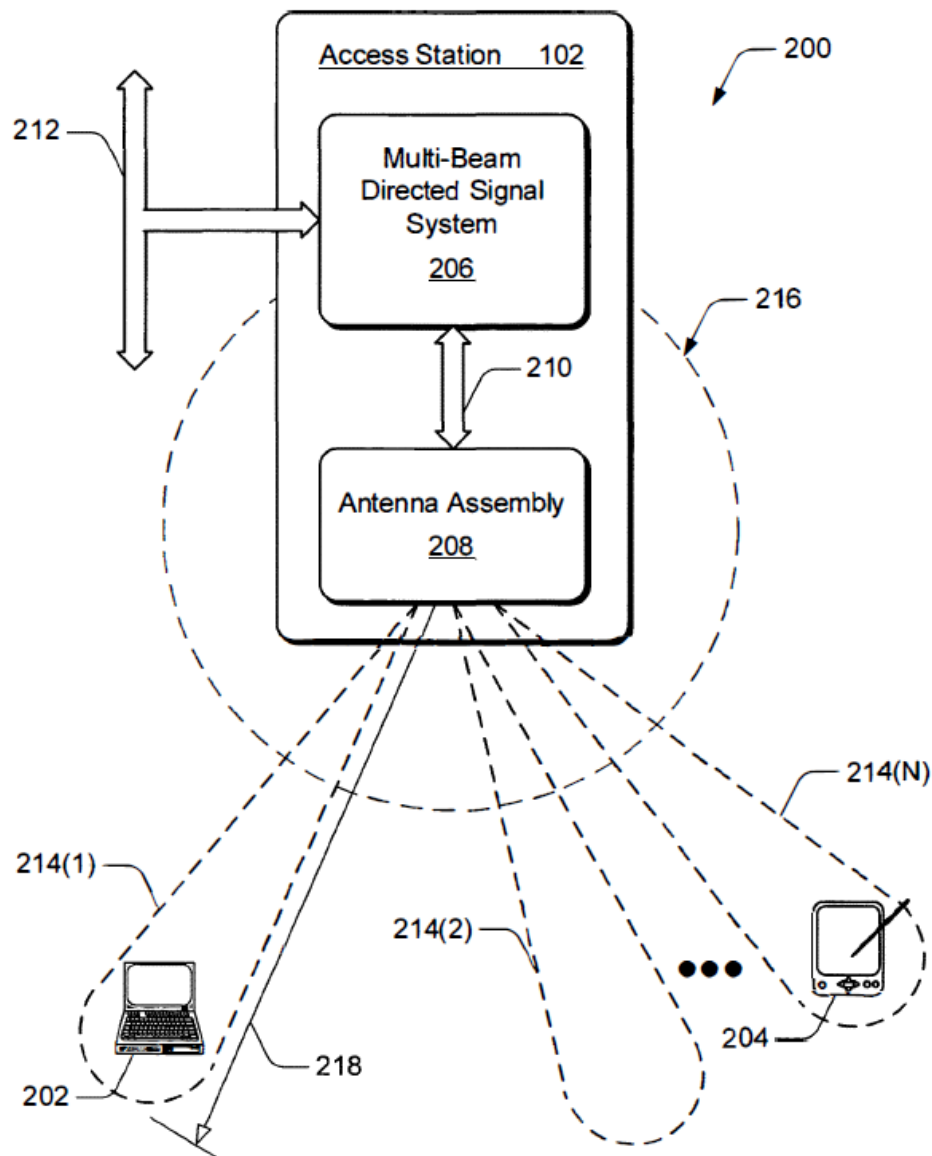
The '235 patent relates to “a multi-beam directed signal system [that] coordinates directed wireless communication with client devices.”

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 ²
13, 14	103(a)	Burke, Shull ³

Pet. 2.

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

II. ANALYSIS - JOINDER UNDER 35 U.S.C. § 315(C)

Joinder in *inter partes* review proceedings is subject to the provisions of 35 U.S.C. § 315(c):

(c) JOINDER.—If the Director institutes an *inter partes* review, the Director, in his or her discretion, may join as a party to that *inter partes* review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an *inter partes* review under section 314.

“To join a party to an instituted [*inter partes* review (IPR)], the plain language of § 315(c) requires two different decisions.” *Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1332 (Fed. Cir. 2020). “First, the statute requires that the Director (or the Board acting through a delegation of authority) . . . determine whether the joinder applicant’s petition for IPR ‘warrants’ institution under § 314.” *Id.* “Second, to effect

² Burke et al., US 7,155,231 B2; issued Dec. 26, 2006 (Ex. 1006, “Burke”).

³ Shull, US 6,006,077; issued Dec. 21, 1999 (Ex. 1007, “Shull”).

joinder, § 315(c) requires the Director to exercise h[er] discretion to decide whether to ‘join as a party’ the joinder applicant.” *Id.*

As the moving party, Petitioner bears the burden of proving that it is entitled to joinder. 37 C.F.R. § 42.20(c). A motion for joinder should: (1) set forth the reasons joinder is appropriate; (2) identify any new grounds of unpatentability asserted in the petition; and (3) explain what impact (if any) joinder would have on the trial schedule for the existing review. *See Kyocera Corp. v. Softview LLC*, IPR2013-00004, Paper 15 at 4 (PTAB Apr. 24, 2013).

A motion for joinder must be filed “no later than one month after the institution date of any *inter partes* review for which joinder is requested.” 37 C.F.R. § 42.122(b).

A. Whether the Petition Warrants Institution

Petitioner “request[s] institution of *inter partes* review and joinder with” the Apple/HP IPR. Mot. 1. Petitioner contends that joinder “is appropriate because the concurrently filed Petition involves the same patent, challenges the same claims, relies on the same exhibits, and is based on the same grounds and combinations of prior art submitted in the Apple/HP Petition.” *Id.* at 3. Petitioner adds that the “Petition is substantively identical to the Apple/HP Petition, containing only minor differences relating to the procedural formalities of having a different set of Petitioners file the Petition. There are no changes to the facts, citations, evidence, or arguments presented in the Apple/HP Petition.” *Id.*; *see also id.* (“The concurrently filed Petition does not present any new expert testimony.”).

We incorporate our previous analysis in our Decision on Institution in IPR2022-00367 regarding the asserted grounds of unpatentability, and

conclude that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one claim of the '235 patent challenged in the Petition for the same reasons. *See* IPR2022-00367, Paper 10, 40.

Accordingly, we determine that Petitioner has met its burden of showing that joinder is appropriate, and that the Petition warrants institution of *inter partes* review on all claims and all challenges asserted in the Petition.

B. Whether to Join Petitioner as a Party to the Apple/HP IPR

Petitioner has filed a timely Motion in accordance with 35 U.S.C. § 315(c). Mot. 2; *see* Paper 6, 1 (affording a filing date for the Petition of August 10, 2022); IPR2022-00367, Paper 10 (mailed July 14, 2022). Petitioner's Motion is unopposed.

As discussed above, the Petition does not present any new grounds or issues. *See* Mot. 3, 4. Petitioner has shown that the trial schedule will not be affected by joinder. Mot. 4. No changes in the schedule are anticipated or necessary, and the limited participation, if at all, of Petitioner will not impact the timeline of the ongoing trial. *See id.* Petitioner has agreed to an “understudy” role, which will simplify matters in the ongoing Apple IPR and will be an efficient use of resources. *Id.* at 4–5. “Petitioner will assume the primary role [in IPR2022-00367] only if the parties ahead of [Petitioner] cease to participate in the Apple/HP IPR.” *Id.* at 5.

Accordingly, we determine that Petitioner has met its burden of showing that we should exercise our discretion to join Petitioner to IPR2022-00367.

III. CONCLUSION

We determine that the Petition warrants institution under § 314, and that Petitioner should be joined with IPR2022-00367, the Apple/HP IPR.

IV. 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;

FURTHER ORDERED that Petitioner's Motion for Joinder with IPR2022-00367 is *granted*, and Petitioner is hereby joined with Apple Inc., HP Inc., Amazon.com, Inc. and Amazon.com Services LLC as petitioner entities in IPR2022-00367;

FURTHER ORDERED that the grounds on which trial in IPR2022-00367 were instituted are unchanged, and no other grounds are added in IPR2022-00367;

FURTHER ORDERED that the Scheduling Order entered in IPR2022-00367 (Paper 11) and schedule changes agreed to by the parties in IPR2022-00367 (pursuant to the Scheduling Order) shall govern the trial schedule in IPR2022-00367;

FURTHER ORDERED that Petitioner's role in IPR2022-00367 shall be limited as stated by Petitioner in the Motion for Joinder (Mot. 4–5) unless and until Apple Inc., HP Inc., Amazon.com, Inc. and Amazon.com Services LLC are terminated from that proceeding;

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FURTHER ORDERED that the case caption in IPR2022-00367 shall be changed to reflect joinder of Apple Inc., HP Inc., Amazon.com, Inc. and Amazon.com Services LLC, and Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Google LLC as petitioner entities in accordance with the attached example;

FURTHER ORDERED that a copy of this Decision be entered into the record of IPR2022-00367; and

FURTHER ORDERED that all further filings shall be made in IPR2022-00367.

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For PETITIONER:

Ali R. Sharifahmadian
Paul Margulies
ARNOLD & PORTER KAYE SCHOLER LLP
ali.sharifahmadian@arnoldporter.com
paul.margulies@arnoldporter.com

For PATENT OWNER:

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

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