

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NETGEAR, INC. and ARUBA NETWORKS LLC,
Petitioner,

v.

XR COMMUNICATIONS LLC D/B/A VIVATO TECH.,
Patent Owner.

IPR2023-00136
Patent 10,594,376 B2

Before BARBARA A. PARVIS, JAMES J. MAYBERRY, and
KARA L. SZPONDOWSKI, *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*

NETGEAR, Inc. and Aruba Networks LLC (collectively, “Petitioner”), filed a Petition requesting *inter partes* review of claims 1–34 (the “Challenged Claims”) of U.S. Patent No. 10,594,376 B2 (Ex. 1001, the “’376 patent”). Paper 1 (“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 *Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., Google LLC, and Cisco Systems, Inc., v. XR Communications, LLC D/B/A Vivato Tech.*, Case No. IPR2022-00613 (the “Samsung IPR”), which was instituted on October 20, 2022, and also challenges claims 1–34 of the ’376 patent. Paper 2 (“Motion” or “Mot.”), 1; *see also* IPR2022-00613, Paper 12 (providing the Decision on Institution).

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) (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 Samsung IPR, and we grant Petitioner’s Motion.

B. Real Parties-in-Interest

Petitioner identifies NETGEAR, Inc., Aruba Networks LLC, and Hewlett Packard Enterprise as the real parties-in-interest. Pet. 90. Patent Owner identifies itself as the real party-in-interest. Paper 6, 1.

C. Related Matters

The parties each identify the following litigations as matters related to the '376 patent: *XR Communications, LLC, dba Vivato Technologies. v. Aruba Networks, LLC.*, No. 2:21-cv-04912 (CDCA); *XR Communications, LLC, dba Vivato Technologies. v. Belkin International, Inc.*, No. 2:21-cv-04914 (CDCA); *XR Communications, LLC, dba Vivato Technologies. v. Netgear, Inc.*, No. 2:21-cv-04942 (CDCA); *XR Communications, LLC, dba Vivato Technologies. v. D-Link Systems, Inc.*, No. 8:21-cv-01063 (CDCA); *XR Communications, LLC, dba Vivato Technologies. v. Netgear, Inc.*, No. 8:21-cv-01064 (CDCA); *XR Communications, LLC, dba Vivato Technologies. v. Ubiquiti Networks, Inc.*, No. 8:21-cv-01065 (CDCA); *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. 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.); and *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.). Pet. 86–87; Paper 6, 1–2.

Petitioner also identifies IPR2022-00613, IPR2023-00174, and IPR2022-00367 as matters related to the '376 patent. Pet. 91.

Patent Owner also identifies the following litigations as matters related to the '376 patent: *XR Communications, LLC, dba Vivato Technologies. v. Ruckus Wireless, Inc.*, No. 3:21-cv-04679 (NDCA); *XR Communications, LLC. v. Arris Solutions, Inc.*, No. 6:21-cv-0621 (W.D. Tex.); *XR Communications, LLC. v. Cisco Systems, Inc. et al.*, No. 6:21-cv-0623 (W.D. Tex.); and *XR Communications, LLC. v. Comcast Corporation et al.*, No. 6:21-cv-0624 (W.D. Tex.). Paper 6, 1–2.

D. The '376 Patent

The '376 patent, titled “Directed Wireless Communication,” issued March 17, 2020, from application US 15/486,245. Ex. 1001, codes (54), (45), (22). The '376 patent ultimately claims priority to a provisional application, US 60/423,660, filed on November 4, 2002. *Id.* at code (60).

The '376 patent “relates to directed wireless communication.” Ex. 1001, 1:20–21. According to the '376 patent, wired networks have high bandwidth and data rates but constrain the range of movement for devices. *Id.* at 1:25–30. The '376 patent explains that wireless networks are more accommodating for the movement of a user but have relatively low bandwidth and data rates. *Id.* at 1:35–43. The '376 patent states that many conventional wireless communication systems and networks use omni-directional antennas that transmit equally in all directions. *Id.* at 1:51–57. The '376 patent further explains that omni-directional antennas have limitations because they have limited transmission ranges and their electromagnetic interference with transmissions is unmanaged, which can cause interference with other devices operating in the same frequency band within a transmission coverage area. *Id.* at 1:60–67.

The '376 patent therefore describes directed wireless communication that uses directed communication beams emanated from an antenna assembly. Ex. 1001, 2:7–15. Figure 2, reproduced below, “illustrates an exemplary directed wireless communication system.” *Id.* at 2:24–25.

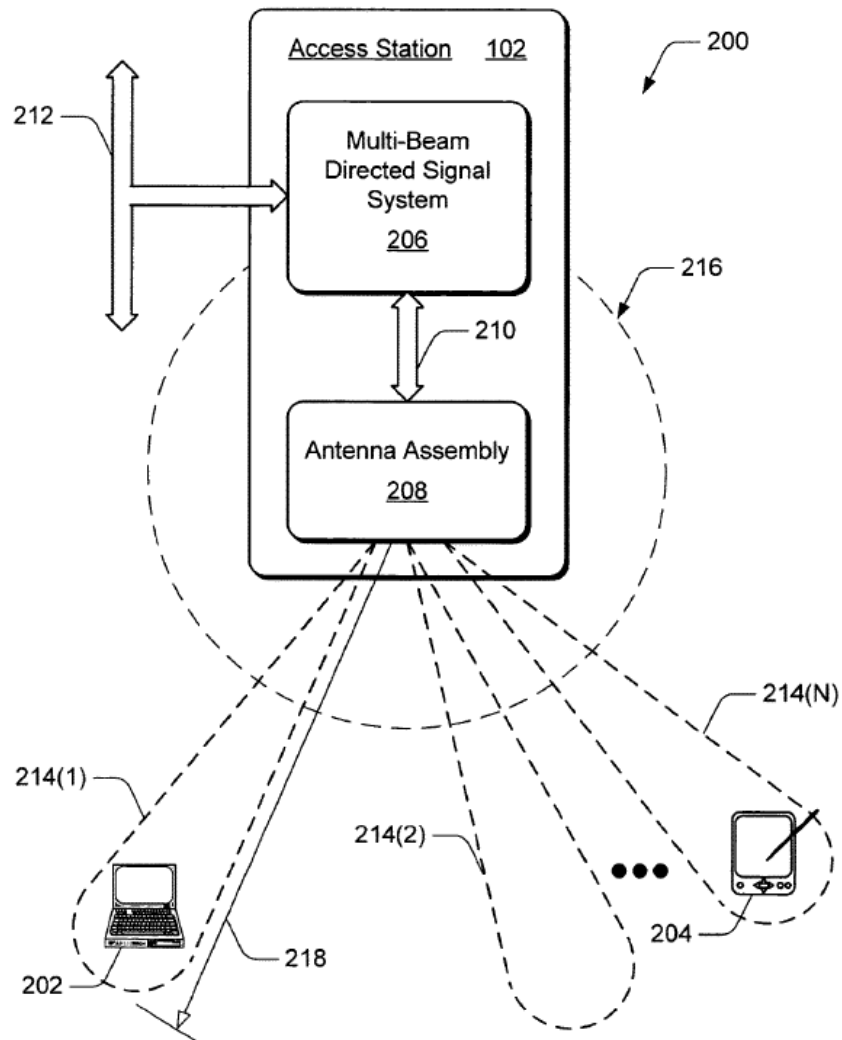


Fig. 2

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.

Figure 3, reproduced below, “illustrates an exemplary communication beam array [that] can be generated with the exemplary directed wireless communication system shown in F[igure] 2.” Ex. 1001, 2:26–28.

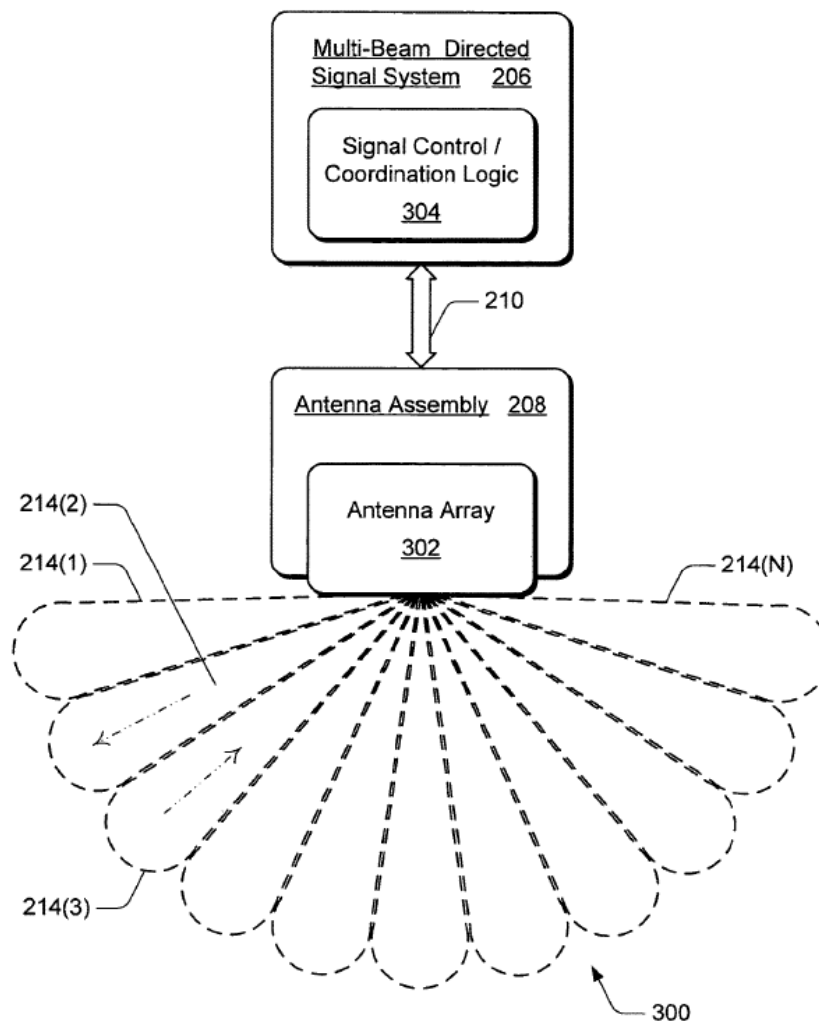


Fig. 3

Communication beam array 300 includes “directed communication beams 214(1), 214(2), . . . 214(N) that emanate from an antenna array 302 which is part of the antenna assembly 208.” *Id.* at 5:56–59. The ’376 patent describes this arrangement as producing “a transmission pattern that selectively places transmission nulls and/or peaks in certain directions within an applicable coverage area.” *Id.* at 5:59–67.

E. Challenged Claims

The Petition challenges claims 1–34. Pet. 1. Claims 1, 12, 22, and 32 are independent claims. Claim 1, which we reproduce below, is representative of the claimed subject matter.

1. A data-communications networking apparatus, comprising:
 - a processor configured to:
 - generate a probing signal for transmission to at least a first client device and a second client device;
 - generate a first data stream for transmission to the first client device; and
 - generate a second data stream for transmission to the second client device; and
 - a transceiver operatively coupled to the processor and configured to:
 - transmit the probing signal to at least the first client device and the second client device via a smart antenna;
 - wherein the smart antenna is operatively coupled to the transceiver and comprises a first antenna element and a second antenna element;
 - wherein one or more of the processor, the transceiver, or the smart antenna is further configured to:
 - receive a first feedback information from the first client device in response to the transmission of the probing signal;
 - receive a second feedback information from the second client device in response to the transmission of the probing signal;

determine where to place transmission peaks and transmission nulls within one or more spatially distributed patterns of electromagnetic signals based in part on the first and the second feedback information;

transmit the first data stream to the first client device via the one or more spatially distributed patterns of electromagnetic signals; and

transmit the second data stream to the second client device via the one or more spatially distributed patterns of electromagnetic signals;

wherein transmission of the first data stream and transmission of at least part of the second data stream occur at the same time; and

wherein the one or more spatially distributed patterns of electromagnetic signals are configured to exhibit a first transmission peak at a location of the first client device and a second transmission peak at a location of the second client device.

Ex. 1001, 32:30–33:5. Independent claims 12, 22, and 32 recite substantially the same subject matter as claim 1. *Compare id.* at 32:30–33:5, with 34:1–42, 35:30–36:11, 37:8–38:23; *see also* Pet. 20 (“The four independent claims have the same basic format—limitations directed to a processor and its functions, limitations directed to a transceiver and its functions, and limitations directed to functions performed in either the processor, transceiver, or a smart antenna.”). Independent claims 22 and 32 also recite the content of feedback information.¹ Independent claim 32 also

¹ Claim 22 recites “wherein the first feedback information comprises one or more of: a first amplitude information, a first phase information, a first routing information, or a first index to a routing table” and “wherein the second feedback information comprises one or more of: a second amplitude information, a second phase information, a second routing information, or a second index to a routing table.” Ex. 1001, 35:51–54, 57–60. Claim 32 includes nearly identical recitations. *See id.* at 37:32–35, 38:1–4.

recites “a memory operatively coupled to one or more of the processor or the transceiver[,] wherein a routing table is stored in the memory.” *See* Ex. 1001, 37:24–27 (the “memory” limitations of claim 32).

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
1–9, 12–18, 22–34	103(a)	Gerlach, ² Barratt ³
10, 11, 19–21	103(a)	Gerlach, Barratt, Okamoto ⁴

Pet. 2.

Petitioner relies on the declaration testimony of Zhi Ding, Ph.D. (Ex. 1003) in support of these grounds.

² Gerlach et al., US 5,471,657; issued Nov. 28, 1995 (Ex. 1005, “Gerlach”).

³ Barratt et al., US 5,592,490; issued Jan. 7, 1997 (Ex. 1006, “Barratt”).

⁴ Okamoto et al., *Evaluation of Beamforming Algorithm Effectiveness for the Smart Wireless LAN System*, VTC '98. 48th IEEE Vehicular Technology Conference, Pathway to Global Wireless Revolution (1998), pp. 1675-1679 vol.3 (Ex. 1007, “Okamoto”).

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 parties 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 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 states that the “Petition is substantively identical to the petition in the Samsung IPR[and] the instant Petition challenges the same claims of the ‘376 patent, on the same grounds and relies on the same prior art, arguments, and evidence (i.e., the . . . Petition is a “copycat” petition).” Mot. 1; *see also id.* at 4–5 (“[The] Petition involves the same patent, challenges the same claims, and is based on the same grounds and evidence relied upon in Samsung, et. al.’s Petition. In short, the [i]nstant Petition is substantively identical to the Samsung Petition with respect to the prior art challenges.”).

We incorporate our previous analysis in our Decision on Institution in IPR2022-00613 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 ’376 patent challenged in the Petition for the same reasons. *See* IPR2022-00613, Paper 12, 50. Accordingly, we determine that Petitioner has met its burden of showing 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 Samsung IPR

Petitioner has filed a timely Motion in accordance with 35 U.S.C. § 315(c). *See* Paper 4, 1 (affording a filing date for the Petition of November 18, 2022); IPR2022-00613, Paper 12 (mailed October 20, 2022); *see also* Mot. 4 (“This Motion for Joinder is timely because it is being filed within one month from the institution decision (“DI”) in the Samsung IPR issued by the Board on October 20, 2022.”). Petitioner’s Motion is unopposed.

As discussed above, the Petition does not present any new grounds or issues. *See* Mot. 1, 4–5, 7. Petitioner has shown that the trial schedule will not be affected by joinder. Mot. 7–8. 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. *Id.* Petitioner has agreed to an “understudy” role, which will simplify matters if Petitioner is joined to the ongoing Samsung IPR, and joining Petitioner to the ongoing Samsung IPR will be an efficient use of resources because it will allow the same issues to be decided in a single proceeding. *Id.* at 9–11.

Accordingly, we determine that Petitioner has met its burden of showing that we should exercise our discretion to join Petitioner to IPR2022-00613.

III. CONCLUSION

We determine that the Petition warrants institution under § 314, and that Petitioner should be joined with IPR2022-00613, the Samsung 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 1–34 of U.S. Patent No. 10,594,376 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 IPR2022-00613 is *granted*, and Petitioner is hereby joined with Cisco

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Systems, Inc., Google LLC, Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. as petitioner entities in IPR2022-00613;

FURTHER ORDERED that the grounds on which trial in IPR2022-00613 were instituted are unchanged, and no other grounds are added in IPR2022-00613;

FURTHER ORDERED that the Scheduling Order entered in IPR2022-00613 (Paper 13) and schedule changes agreed to by the parties in IPR2022-00613 (pursuant to the Scheduling Order) shall govern the trial schedule in IPR2022-00613;

FURTHER ORDERED that Petitioner's role in IPR2022-00613 shall be limited as stated by Petitioner in the Motion for Joinder (Mot. 9–11) unless and until Cisco Systems, Inc., Google LLC, Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc., and eero LLC are terminated from that proceeding;

FURTHER ORDERED that the case caption in IPR2022-00613 shall be changed to reflect joinder of Cisco Systems, Inc., Google LLC, Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc., and NETGEAR, Inc. and Aruba Networks LLC, as petitioner entities in accordance with the attached example;

FURTHER ORDERED that a copy of this Decision be entered into the record of IPR2022-00613; and

FURTHER ORDERED that all further filings shall be made in IPR2022-00613.

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