

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*

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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.”

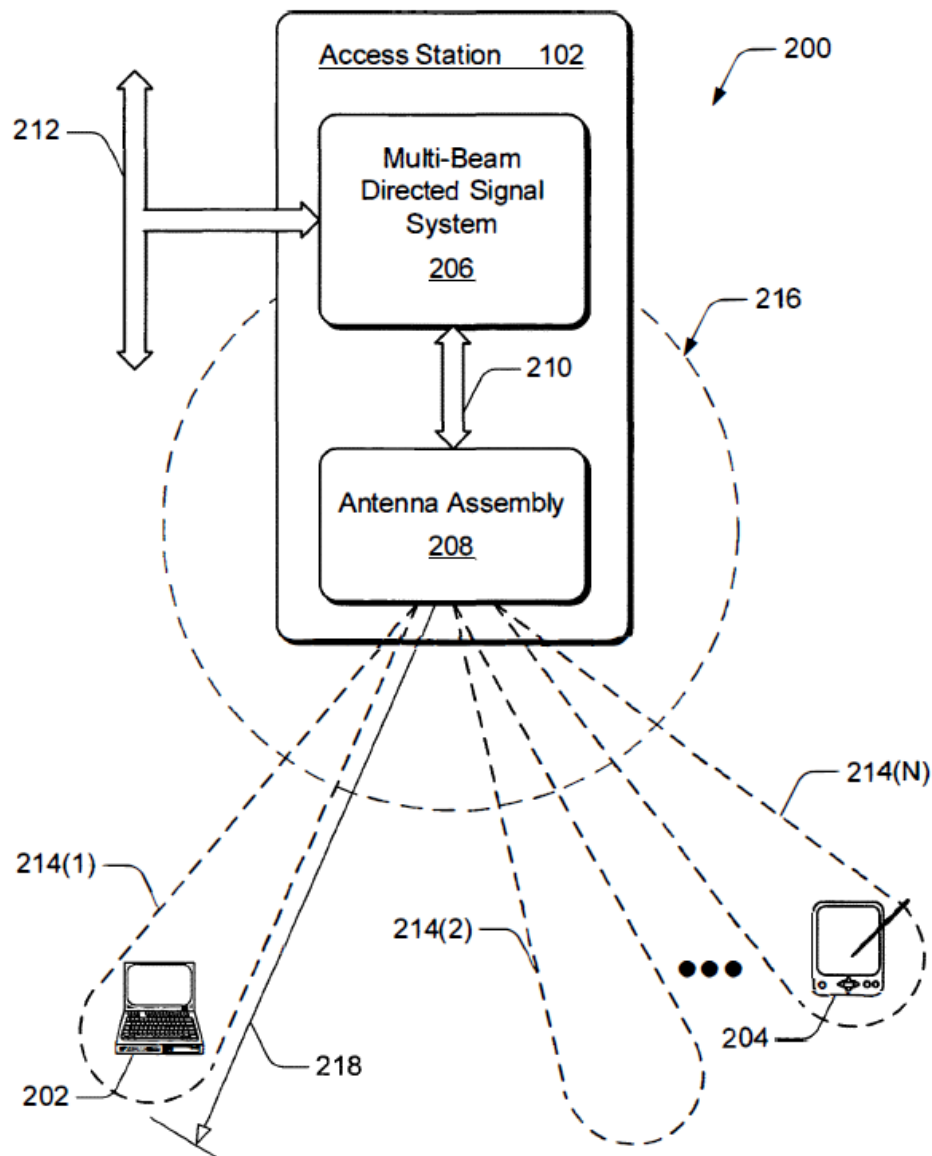
Ex. 1001, 2:8–10. “In a described implementation, a multi-beam directed signal system (e.g., also referred to as an access point or Wi-Fi switch) is a long-range packet switch . . . in accordance with an 802.11 standard.”

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

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