UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS
AMERICA, INC., GOOGLE LLC, and CISCO SYSTEMS, INC.,
Petitioners

v.

XR COMMUNICATIONS, LLC, D/B/A VIVATO TECHNOLOGIES,
Patent Owner

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IPR2022-00367
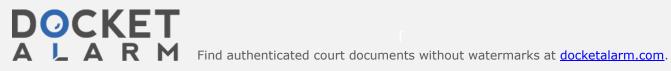Patent No. 10,715,235

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PATENT OWNER SUR-REPLY

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PATENT OWNER'S EXHIBIT LIST

Exhibit	Description
2001	Complaint, *XR Communications v. Apple Inc.*, W.D. Tex. Case No. 21-cv-00620-ADA
2002	Complaint, *XR Communications v. HP Inc.*, W.D. Tex. Case No. 21-cv-00694-ADA
2003	Scheduling Order, *XR Communications v. Apple Inc.*, W.D. Tex. Case No. 21-cv-00620-ADA, Dkt. No. 27 (W.D. Tex., Jan. 13, 2022)
2004	Scheduling Order, *XR Communications v. HP Inc.*, W.D. Tex. Case No. 21-cv-00694-ADA, Dkt. No. 24 (W.D. Tex., Jan. 13, 2022)
2005	Notice of Agreed Extension of Deadline, *XR Communications v. Apple Inc.*, W.D. Tex. Case No. 21-cv-00620-ADA, Dkt. No. 27 (W.D. Tex., Jan. 13, 2022)
2006	Notice of Agreed Extension of Deadline, *XR Communications v. HP Inc.*, W.D. Tex. Case No. 21-cv-00694-ADA, Dkt. No. 24 (W.D. Tex., Jan. 13, 2022)
2007	Exhibit A-14 to Defendants' Preliminary Invalidity Contentions in *XR Communications v. Apple Inc.*, W.D. Tex. Case No. 21-cv-00620-ADA and *XR Communications v. HP Inc.*, W.D. Tex. Case No. 21-cv-00694-ADA
2008	Excerpts of Defendants' Preliminary Invalidity Contentions in *XR Communications v. Apple Inc.*, W.D. Tex. Case No. 21-cv-00620-ADA and *XR Communications v. HP Inc.*, W.D. Tex. Case No. 21-cv-00694-ADA
2009	Claim Construction Order, *XR Comm'ns LLC v. Cisco Sys., Inc.*, Case No. 6:21-cv-00623-ADA, Dkt. No. 56 (W.D. Tex. Sept. 30, 2022)
2010	Declaration of Branimir Vojcic, D.Sc.
2011	Deposition Transcript of Robert Akl, Ph.D. dated October 18, 2022

I.   Introduction

The Petition argued for only one modification to Burke: replacing the single antenna in Burke's mobile station with an antenna array. But as shown in the Patent Owner Response, this modification falls far short of constituting a system that performs three limitations of the challenged claims:

- receiving a first signal via "a first antenna element of an antenna" and a second signal via "a second antenna element of the antenna"— "*simultaneously*" (**claim [8a]**);

- determining "second signal information" for the second signal that *is different than* the "first signal information" for the first signal (**claim 8[d]**); and

- determining a set of weighting values "based on the first signal information and the second signal information" (**claim 8[e])**.

Now that Patent Owner identified this flaw in the Petition, Petitioners provide new invalidity theories in reply, including a complex modification of Burke's mobile station that requires duplicating Burke Fig. 12 for each antenna element of the array. But this "Fig. 12 duplication" theory is found nowhere in the Petition and amounts to an impermissible new argument in reply. In any event, Petitioners' new theory is driven by hindsight and an unsupported attempt to fit Burke's different system into the challenged claims by using the '235 patent a roadmap. At bottom, Petitioners fail to show that a POSITA starting with Burke would be motivated to modify the single antenna to arrive at the claimed antenna array recited in 8[a], [d], and [e].

II.   The Petition Fails to Show that Burke Renders Obvious Claim [8a]

    A.   Replacing Burke's antenna with an antenna array does not satisfy [8a]'s requirement of two elements of an antenna array that receives two signals simultaneously.

The Petition argued that replacing Burke's single antenna with an array of diversity antennas would be sufficient to satisfy limitation [8a]. It relies on Burke's statement at 25:58–61 that antenna 112 "may be a single antenna, or an array of diversity antennas for deploying diversity techniques known in the art" and asserts that "a POSITA would have been motivated *to implement Burke's disclosure (EX-1006, 25:58–61) for its technological benefits*[.]" Pet. at 27–28. Thus, the Petition's theory was to simply replace Burke's antenna 112 with an array of diversity antennas. It described no other modifications to the Burke's mobile station or to any components or structures in Figs. 2 and 12. *Id.*; EX-1003 (Akl Decl.), ¶¶ 83-86.

That the Petition is limited to a replacement theory is confirmed by its discussion of claim [8c] and [8d]. It asserts that Figure 12 satisfies those limitations because signals received at "*array antennas 112*" are conditioned at receiver 1210:

> As explained above in Section III.A.1, Burke teaches that signals received at antenna 112 (or array antennas 112) in mobile station 106 can be conditioned in receiver 1210. EX-1006, 25:56-67, FIG. 12 (reproduced below); EX-1003, ¶[90].

Pet. at 33 (highlighting added);

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