Filed on behalf of: AX Wireless, LLC

Entered: January 22, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORPORATION,
Petitioner,

v.

AX Wireless, LLC,
Patent Owner.

Case IPR2023-01143
Patent 9,584,262

PATENT OWNER'S SUR-REPLY
IN SUPPORT OF
PATENT OWNER'S PRELIMINARY RESPONSE

Exhibit List

Exhibit	Description
2001	Declaration of Zygmunt Haas, Ph.D. ("Haas" or "AXW-2001")
2002	*Curriculum Vitae* of Zygmunt Haas, Ph.D. ("AXW-2002")
2003	Institute of Electrical & Electronics Engineers ("IEEE"), *IEEE Standards Association – Documents 802.11* (Oct. 10, 2023), https://mentor.ieee.org/802.11/documents (excerpted) ("AXW-2003")
2004	IEEE, *IEEE Standards Association – Documents 802.11: Working Group* (Oct. 8, 2023), https://mentor.ieee.org/802.11/documents?is_dcn=DCN%2C%20Title%2C%20Author%20or%20Affiliation&is_group=0000 (screenshot excerpts) ("AXW-2004")
2005	IEEE, *IEEE Standards Association – Documents 802.11: TGn Working Group (inactive)* (Sept. 20, 2023), https://mentor.ieee.org/802.11/documents?is_group=000n (excerpted) ("AXW-2005")
2006	IEEE 802.11 Working Group of the 802 Committee, *IEEE P802.11n™/D1.0, Draft Amendment to STANDARD [FOR] Information Technology-Telecommunications and information exchange between systems-Local and Metropolitan networks-Specific requirements-Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: Enhancements for Higher Throughput* (Mar. 2006) ("AXW-2006")
2007	IEEE, *IEEE Standards Association – Documents 802.11 (no search terms)* (Sept. 22, 2023), https://mentor.ieee.org/802.11/documents ("AXW-2007")
2008	IEEE, *IEEE Standards Association – Documents 802.11 (all groups; extended range activity)* (Sept. 20, 2023), https://mentor.ieee.org/802.11/documents?is_dcn=extended range ("AXW-2008")

Exhibit	Description
2009	IEEE, *IEEE Standards Association – Documents 802.11: TGn Working Group (inactive; range search)* (Sept. 20, 2023), https://mentor.ieee.org/802.11/documents?is_dcn=range&is_group=000n ("AXW-2009")
2010	IEEE, *IEEE Standards Association – Documents 802.11: TGn Working Group (inactive; extended range activity)* (Sept. 20, 2023), https://mentor.ieee.org/802.11/documents?is_dcn=extend&is_group=000n ("AXW-2010")
2011	IEEE, *IEEE Standards Association – Documents 802.11 (all groups; extended and range search activity)* (Oct. 9, 2023), https://mentor.ieee.org/802.11/documents?is_dcn=extended AND range ("AXW-2011")
2012	IEEE, *IEEE Standards Association – Documents 802.11 (all groups; range search activity)* (Oct. 10, 2023), https://mentor.ieee.org/802.11/documents?is_dcn=range (excerpted) ("AXW-2012")
2013	Bruce Kraemer & Adrian Stephens, *TGn Proposed Draft Revision Notice* (Doc. No. IEEE 802.11-06/1061r0) (July 18, 2006), https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fmentor.ieee.org%2F802.11%2Fdcn%2F06%2F11-06-1060-00-000n-tgn-draft-revision-with-additions-and-deletions.ppt&wdOrigin=BROWSELINK ("AXW-2013")
2014	Gérald Chouinard, *Bringing broadband access to rural and remote areas: The Canadian Experience*, ITU NEWS (commem. ed. 3) (Apr. 2006) ("AXW-2014" or "ITU News")
2015	Matthew S. Gast, *802.11 Wireless Networks: The Definitive Guide* (2d ed. 2005) ("AXW-2015" or "Gast")

Exhibit	Description
2016	Syed Aon Mujtaba, *TGn Sync Response to Questions* (Doc. No. IEEE 802.11-05/182r2) (Mar. 16, 2005), https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fmentor.ieee.org%2F802.11%2Fdcn%2F05%2F11-05-0182-02-000n-tgnsync-response-to-atlanta-questions.ppt&wdOrigin=BROWSELINK ("AXW-2016")
2017	Third Amended Docket Control Order, *AX Wireless LLC v. Dell Inc.*, No. 2:22-cv-00277 (E.D. Tex. Oct. 23, 2023), ECF No. 136 ("AXW-2017")
2018	Third Amended Docket Control Order, *AX Wireless LLC v. Lenovo Grp. Ltd.*, No. 2:22-cv-00280 (E.D. Tex. Oct. 31, 2023), ECF No. 130 ("AXW-2018")
2019	RESERVED
2020	*Time to Milestones – Judge Robert W. Schroeder, III: Case Filing Date: On or After Jan. 1, 2008*, Docket Navigator ("AXW-2020")
2021	Civil Docket, *AX Wireless LLC v. Dell Inc.*, No. 2:22-cv-00277 (E.D. Tex.) (through Nov. 15, 2023) ("AXW-2021")
2022	Civil Docket, *AX Wireless LLC v. Lenovo Grp. Ltd.*, No. 2:22-cv-00280 (E.D. Tex.) (through Nov. 15, 2023) ("AXW-2022")
2023	Defendants' P.R. 3-3 Invalidity Contentions and Ineligibility Contentions, *AX Wireless LLC v. Dell Inc. & HP Inc.*, Nos. 2:22-cv-00277, 2:22-cv-00279 (E.D. Tex. Jan. 23, 2023 [served]) ("AXW-2023")
2024	IEEE Std. 802.11n-2009, *Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications, Amendment 5: Enhancements for Higher Throughput* (Oct. 29, 2009)

Exhibit	Description
2025	R. Kennedy, *Amendment to IEEE Standard 802.11-2007 (Project No. P802.11af): Standard for Information Technology - Telecommunications and Information Exchange Between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications; Amendment: TV White Spaces Operation* (PAR Request Oct. 2, 2009; PAR Approval Dec. 9, 2009) ("AXW-2025")
2026	Bruce Kraemer, *Amendment to IEEE Standard 802.11-2007 (Project No. P802.11ah): Standard for Information Technology - Telecommunications and Information Exchange Between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications; Amendment: Sub 1 GHz License-Exempt Operation* (PAR Request July 26, 2010; PAR Approval Sept. 30, 2010) ("AXW-2026")
2027	Xuemei Ouyang et al., *Optimal Antenna Diversity Combining for IEEE 802.11A System*, 48 IEEE TRANSACTIONS CONSUMER ELECS. 738 (Aug. 2002) ("AXW-2027")
2028	Cenk Kose & Bruce Edwards, *WWiSE Proposal: High Throughput Extension to the 802.11 Standard* (Doc. No. IEEE 802.11-04/0886r6) (Jan. 6, 2005), https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjJq5fyur-CAxUROUQIHan7D4IQFnoECBkQAQ&url=https%3A%2F%2Fmentor.ieee.org%2F802.11%2Fdcn%2F05%2F11-05-0149-00-000n-wwise-proposal-high-throughput-extension-to-802-11-standard.doc&usg=AOvVaw2ryBNHlH79Ugg8pE4IzPVE&opi=89978449 ("AXW-2028" or "March 2005 WWiSE Proposal")
2029	Mohammad Hossein Manshaei & Thierry Turletti, *Simulation-Based Performance Analysis of 802.11a Wireless LAN*, PROC. INT'L SYMP. TELECOMMS. 758 (Aug. 2003) ("AXW-2029")

Exhibit	Description
2030	IEEE, *IEEE P802.11 – Task Group N – Meeting Update: Status of Project IEEE 802.11n: Standard for Enhancements for Higher Throughput*, https://www.ieee802.org/11/Reports/tgn_update.htm (printed 11/10/2023) ("AXW-2030")
2031	RESERVED
2032	RESERVED
2033	Docket Control Order, *AX Wireless LLC v. Acer Inc.*, No. 2:23-cv-00041-JRG-RSP (E.D. Tex. Oct. 13, 2023), ECF No. 35 ("AXW-2033")
2034	Defendant Acer Inc.'s Initial Disclosures Pursuant to Paragraphs 1 and 3 of the Discovery Order, *AX Wireless LLC v. Acer Inc.*, No. 2:23-cv-00041-JRG-RSP (E.D. Tex. Oct. 19, 2023) ("AXW-2034")
2035	Defendant's P.R. 3-3 Invalidity Contentions and Ineligibility Contentions, *AX Wireless LLC v. Acer Inc.*, No. 2:23-cv-00041-JRG-RSP (E.D. Tex. Nov. 30, 2023) ("AXW-2035")
2036	Defendant HP Inc.'s Rule 72(a) Objections to Order Denying Motion to Transfer to the Northern District of California, *AX Wireless LLC v. HP Inc.*, No. 2:22-cv-00279-JRG-RSP (E.D. Tex. Dec. 21, 2023), ECF No. 101 ("AXW-2036")
2037	Fourth Amended Docket Control Order, *AX Wireless LLC v. Dell Inc.*, No. 2:22-cv-00277-RWS-RSP (E.D. Tex. Jan. 2, 2024), ECF No. 161 ("AXW-2037")
2038	Third Amended Docket Control Order, *AX Wireless LLC v. HP Inc.*, No. 2:22-cv-00279-JRG-RSP (E.D. Tex. Jan. 2, 2024), ECF No. 102 ("AXW-2038")

Petitioner Intel, of course, bears the burden of showing that institution is warranted. It has not done so. With respect to *Fintiv*, Intel offers *Sotera* stipulations from admitted RPIs Dell and Lenovo. Reply 1. Those stipulations do not solve Intel's *Fintiv* problem. The Director's *Fintiv* Memorandum explains that "if the petition includes materially different grounds, arguments, and/or evidence than those presented in the district court, this fact has tended to weigh against exercising discretion to deny institution." Fintiv Memo at 7. But the petition still includes the same grounds that will be presented in district court, despite the stipulations, at least because admitted RPI Dell and HP submitted joint invalidity contentions in their closely linked cases with the same grounds presented in this IPR. *See* AXW-2023. Intel does not contend that HP—which will go to trial in June 2024, *see* AXW-2038—is bound in any way by Dell's stipulation.

The Director's *Fintiv* memorandum does not directly address this situation. It is instead directed to the situation where the petitioner (rather than a collection of RPIs and privies) is the defendant in the one parallel court proceeding (rather than multiple related proceedings), and the petitioner (rather than its RPIs and privies) submits a stipulation. *See* Fintiv Memo at 7. Here, Intel supplies HP, just as it supplies Dell and Lenovo. *See* AXW-2036 at -005 (Intel supplies HP). In addition, Acer has now submitted its invalidity contentions, and it, too, includes the same grounds as the Petition. AXW-2035 at -011-015. Intel also supplies Acer, and Acer

will go to trial before, but closer to, the Board's final written decision date. AXW-2033 (setting a January 2025 trial date); AXW-2034 at -003 (admitting Intel is Acer's supplier).

Intel never explains why the closely linked HP case (or Acer's case for that matter) do not raise the same "concerns of inefficiency and the possibility of conflicting decisions" as the Dell and Lenovo trials. Fintiv Memo at 7 (quoting *Fintiv* at 12). Intel insinuates that HP (and Acer) are *not* privies or RPIs in a cryptic footnote citing the original *Fintiv* decision (Reply 1 n.1), but carefully avoids stating so in a transparent attempt to avoid its routine discovery obligations. As the relevant supplier to all four litigants, Intel's silence is telling. Intel cannot sidestep its burden as petitioner and subvert the Board's *Fintiv* guidance in this manner.

Indeed, Intel tacitly recognizes that its stipulations are not enough, impermissibly expanding on its conclusory "compelling merits" allegation. The Board authorized further briefing on *Fintiv* "to get Petitioner's *Sotera* stipulation into the record," but expressly denied further briefing on prior art merits topics. Paper 7 at 2-3, 5. Despite this, Intel argues these points under *Fintiv* guise. The Board should disregard such arguments. Regardless, Intel's Reply further demonstrates that its merits case is driven by hindsight.

As to Ground 1, despite the Board denying a Reply on this issue, Intel argues that its proposed combination is to reprogram Hansen's transceiver to

support WWiSE's ER packets. Reply 2-3. But as PO showed, the Petition plainly relies on different proposed combinations in its motivation to combine section compared to its claim-by-claim analysis. POPR 19-22. Intel also accepts there are numerous techniques to extend range, but provides no reason why a POSA would have selected a technique rejected by the IEEE and remove that technique from its context in WWiSE, or why a POSA would have added that technique to Hansen, contrary to Hansen's teachings. POPR 22-36. At best, Intel argues that Hansen's BPSK modulation is compatible with WWiSE, which Intel argues also uses BPSK. Reply 3. But Intel ignores that WWiSE uses only QPSK modulation for SIG-N in mandatory 20 MHz modes. INTEL-1005 at 70. And Intel's combination relies expressly on such 20 MHz communications for the claimed "first packet." Pet. 24-26, 30-31. And as to Ground 2, PO already showed how Zhang is not prior art because Intel's attempt to show written description support in the '900PROV fails. POPR 47-57.

And to be sure, the district court cases are proceeding swiftly despite recent schedule adjustments—*Markman* briefing and argument are complete, and fact and expert discovery will soon be complete. *Id.* 57-60; AXW-2037 (Dell's expert discovery complete on March 13, 2024); AXW-2038 (HP's expert discovery also complete on March 13); AXW-2018 (Lenovo's still-current schedule). The Board should exercise its discretion to deny institution under *Fintiv* and § 314(a).

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), I certify that on this 22nd day of January, 2024, a true and correct copy of the foregoing **Patent Owner's Sur-Reply in Support of Patent Owner's Preliminary Response and all Exhibits** were served by electronic mail on Petitioner's lead and backup counsel at the following email addresses:

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