UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORPORATION,

Petitioner,

v.

AX Wireless, LLC,

Patent Owner.

IPR2023-01139

U.S. Patent No. 10,917,272

PETITIONER'S MOTION TO SUBMIT SUPPLEMENTAL INFORMATION PURSUANT TO 37 C.F.R. § 42.123(a)

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I. INTRODUCTION

On March 14, 2024, Petitioner Intel Corporation sought authorization from the Board to file a motion to submit supplemental information. The next day the Board authorized Intel's filing. Intel now moves to submit Exhibits INTEL-1048 – INTEL-1050, which are being filed concurrently with this motion, as supplemental information. The proposed exhibits relate to the WWiSE reference, an IEEE 802.11 wireless standard proposal ("WWiSE"; INTEL-1006). Paper 12 at 13. The Board instituted review on grounds that rely on WWiSE. *Id.* at 2, 6.

Intel's supplemental information is relevant to this IPR. First, it reinforces the Board's conclusion that WWiSE was publicly available before the earliest possible priority date of the challenged patent—and thus qualifies as prior art. *Id.* at 15-26. Second, the proposed exhibits link WWiSE's contributors to the reference's public availability. The institution decision recognized that WWiSE lists "at least fifty contributors that were associated with a wide variety of technology companies in this space." *Id.* at 17 (citing INTEL-1006 at 2-4). In related IPRs, the Board has invited Intel and Patent Owner AX Wireless to address this information going forward: "The parties may want to consider during trial, and in accordance with our Rules, whether this evidences or otherwise supports public availability." *E.g.*, *Intel Corp. v. AX Wireless, LLC*, IPR2023-01136, Paper 10 at 20 (PTAB Feb. 14, 2024).

And Intel's proposed exhibits will neither disrupt this proceeding nor prejudice AX Wireless. The supplemental information does not alter Intel's grounds of unpatentability or necessitate any scheduling changes; it simply provides additional support that WWiSE was publicly available. AX Wireless has ample time to review the evidence and respond in its upcoming filing.

For these reasons, the Board should grant Intel's motion to submit Exhibits INTEL-1048 – INTEL-1050 as supplemental information.

II. ARGUMENT

A party may file a motion to submit supplemental information if (1) authorization to file is requested "within one month of the date the trial is instituted"; and (2) the supplemental information is "relevant to a claim for which the trial has been instituted." 37 C.F.R. § 42.123(a). These "timeliness and relevancy" requirements are "construed within the overarching context of the PTAB's regulations governing IPR and general trial proceedings." *Redline Detection, LLC v. Star Envirotech, Inc.*, 811 F.3d 435, 446 (Fed. Cir. 2015). That includes "secur[ing] the just, speedy, and inexpensive resolution of every proceeding." 37 C.F.R. § 42.1(b); *see also Redline*, 811 F.3d at 448.

The two requirements of 37 C.F.R. § 42.123(a) are met here. And Intel's supplemental information will not interfere with the Board's ability to conclude these proceedings quickly and fairly.

A. Intel properly requested authorization to file this motion

There can be no dispute that Intel satisfied the timeliness requirement in 37 C.F.R. § 42.123(a). Intel sought authorization from the Board on March 14, 2024. That was within one month of the February 14, 2024 Institution Decision in this proceeding. Paper 12.

B. Intel's supplemental information is relevant to an instituted ground of unpatentability

The proposed exhibits are relevant to this IPR proceeding because they relate to the public availability and prior art status of WWiSE—a reference that Intel relied on in instituted grounds. Paper 12 at 6. The exhibits create a more complete record on the issue for the Board's consideration. *See, e.g.*, *South-Tek Sys., LLC v. Engineered Corrosion Sols., LLC*, IPR2016-01351, Paper 17 at 4-5 (PTAB June 15, 2017) (granting motion to submit supplemental information because the exhibits at issue were "relevant to th[e] proceeding" and "provide[d] a more complete record of the public availability" of a reference); s*ee also Creston Elecs., Inc. v. Intuitive Bldg. Controls, Inc.*, IPR2015-01379, Paper 27 at 4-5 (PTAB Feb. 2, 2016); *Microsoft Corp. v. Corel Software, LLC*, IPR2016-01086, Paper 25 at 4 (PTAB Jan. 31, 2017); *Seabery N. Am. Inc. v. Lincoln Glob., Inc.*, IPR2016-00840, Paper 40 at 8 (PTAB Mar. 15, 2017); *Valeo N. Am., Inc. v. Magna Elecs., Inc.*, IPR2014-01204, Paper 26 at 4-5 (PTAB Apr. 10, 2015).

The petition explains why WWiSE was publicly available before the earliest possible priority date of the challenged patent and is therefore prior art. Paper 2 at 1-4. For instance, the reference was:

i. submitted to the Task Group n ("TGn") of the IEEE 802.11 Working Group, which any member of the public could join;

ii. available through the IEEE's publicly accessible website http://www.802wirelessworld.com (the "Wireless World" website); and

iii. remained accessible to the public via the Wireless World website from its creation date in July 2005 until 2007, and at the IEEE's "Mentor" website after that.

The petition included copious supporting evidence, including testimony from Dr. James Lansford, who was a member of the IEEE 802.11 Working Group at the time WWiSE was submitted to that group. Paper 2 at 1-4; INTEL-1007 ¶¶12-16, 23. Based on that evidence, the Board (i) found that Intel had "shown public availability of WWiSE" and (ii) noted that there are at least 50 contributors to WWiSE who represented many technology companies. Paper 12 at 17, 19. Intel provides three proposed exhibits that buttress the Board's conclusion and address the issue of public availability based on WWiSE's contributors.

1. The Lansford Declaration

Intel moves to submit a supplemental declaration from Dr. Lansford. INTEL-1048. In that declaration, Dr. Lansford testifies at length about why the long list of contributors to WWiSE is relevant to the reference's public availability. Those contributors, as well as the companies they worked for, were actively tracking the standard development process, including monitoring and reviewing submissions like WWiSE. For example, Dr. Lansford explains that:

- "integrated circuit product competitors, mobile phone suppliers, computer makers, access point vendors, and others across the industry paid close attention to the evolution of standards and launched product design efforts long before a standard's completion," *id.* ¶7;
- "monitoring standard developments and launching early product work was essential to remaining competitive in this industry," *id.*;
- "[i]ndustry participants have long tracked proposals and drafts submitted to task groups working on next generation 802.11 standards to identify features and functionality to include in their products that are planned for launch near the end of the standardization process," *id.* ¶8;
- "the dueling proposals from the industry consortia 'WWiSE' and 'TGN Sync' … were widely discussed in wireless networking industry circles" and these proposals "list large cross sections of wireless networking

industry participants as joint contributors or authors," *id.* ¶¶9-10; and

- contributors listed in WWiSE "comprise a solid majority of the product companies that were developing and supplying integrated circuits for Wi-Fi in the 2005 time frame as well as leading networking equipment suppliers at the time," *id*. ¶10.

This information speaks directly to an issue the has Board invited the parties to address in related IPRs (e.g., IPR2023-01136). It also bolsters the Board's decision that WWiSE's submission to the IEEE 802.11 Working Group was publicly accessible. A large swathe of the wireless industry was reviewing the submissions.

2. The Hansen Deposition Transcript

Intel also proposes submitting deposition testimony from Dr. Christopher Hansen. INTEL-1049. Dr. Hansen was a contributor to WWiSE. INTEL-1006 at 2. His testimony is relevant to whether WWiSE was publicly available. For example, Dr. Hansen described that "anyone could submit a proposal" such as WWiSE to TGn on the Wireless World website, that "all 802.11 submissions were public," and that he was "not aware of any restrictions" on who could be a member of the IEEE 802.11 Working Group. INTEL-1049, 20:8-21:1, 33:25-34:5. And like Dr. Lansford, Dr. Hansen explained that engineers paid attention to submissions to TGn during the 802.11 standardization process, which is relevant to the issue the

Board invited the parties to address. Industry participants monitored submissions to look for features "they felt confident other companies would also be implementing in the same way." *Id.*, 23:4-25.

3. The Hindman Declaration

Proposed Exhibit INTEL-1050 is a declaration from Matthew Hindman that was served on AX Wireless as supplemental evidence in response to its objections to evidence cited in the petition. *See Palo Alto Networks, Inc. v. Juniper Networks, Inc.*, IPR2013-00369, Paper 37 at 5 (PTAB Feb. 5, 2014) (supplemental evidence may also be supplemental information). The declaration is relevant to the public availability of WWiSE. It authenticates websites cited in the petition showing that, before the earliest possible priority date of the challenged patent, interested members of the public would have been aware of WWiSE and TGn Sync as the two chief competing proposals for incorporation into IEEE 802.11n. *See, e.g.*, INTEL-1050 ¶¶29-30, 32; Paper 2 at 3. The declaration provides evidence to support when the websites were available to the public.

C. The supplemental information will not undermine the just, speedy, and inexpensive resolution of this proceeding

Intel's supplemental information will not hamper the Board's ability to complete this proceeding in a timely and efficient way. The proposed exhibits merely confirm that WWiSE was publicly available, providing the Board with more complete information on the issue. *See, e.g.*, *South-Tek Sys.*, IPR2016-01351,

Paper 17 at 4-5. The supplemental information does not alter the instituted grounds or change Intel's unpatentability arguments. *See In-Depth Geophysical, Inc. v. ConocoPhillips Co.*, IPR2019-00850, Paper 27 at 3 (PTAB Dec. 5, 2019). And submission of the proposed exhibits will not require any changes to the current schedule in this proceeding.

Moreover, the supplemental information does not prejudice AX Wireless. AX Wireless will have an opportunity to address the proposed exhibits in its forthcoming Patent Owner's response. *See, e.g., Nevro Corp. v. Boston Sci. Neuromodulation Corp.*, IPR2019-01315, Paper 20 at 4-5 (PTAB Mar. 25, 2020); *ClearOne, Inc. v. Shure Acquisition Holdings, Inc.*, IPR2019-00683, Paper 32 at 7 (PTAB Nov. 6, 2019); *Palo Alto Networks*, IPR2013-00369, Paper 37 at 5. AX Wireless has already received the Hindman declaration and will receive the other proposed exhibits on the filing date of this motion (March 25, 2024), which is over six weeks before the deadline for AX Wireless's response. Paper 13 at 11. Further, given that AX Wireless disputed whether WWiSE was publicly available (Paper 7 at 3-11), "[Intel's] response to [that] attack with additional evidence bolstering its public accessibility contention is foreseeable, reasonable, and not unduly prejudicial." *Baker Hughes Inc. v. Packers Plus Energy Servs., Inc.*, IPR2016-00598, Paper 86 at 3 (PTAB Dec. 4, 2019); *see also Nevro*, IPR2019-01315, Paper 20 at 4-5.

AX Wireless may contend that this motion should be denied because Intel could have obtained the proposed exhibits sooner. That argument lacks merit for several reasons. To begin, 37 C.F.R. § 42.123(a) does not require Intel to address when evidence could have been obtained. *See, e.g.*, *Apple Inc. v. Uniloc 2017 LLC*, IPR2019-00251, Paper 23 at 6 (PTAB July 20, 2020) (rejecting patent owner's argument that § 42.123(a) requires a petitioner to address why information could not have been obtained earlier); *Palo Alto Networks,* IPR2013-00369, Paper 37 at 3 (addressing "whether supplemental information reasonably could have been obtained earlier" is "not a requirement under § 42.123(a).") (quotation marks omitted). Furthermore, the Board has declined to impose such a requirement where, as here, the petitioner "does not seek to change the grounds of unpatentability or change the evidence initially presented in the Petition to support those grounds of unpatentability." *NeuroDerm Ltd. v. AbbVie Inc.*, PGR2022-00040, Paper 23 at 5 (PTAB Jan. 13, 2023); *see also Nokia of Am. Corp. v. TQ Delta, LLC*, IPR2022-00471, Paper 36 at 4-5 (PTAB Nov. 17, 2022) ("the purpose of 37 C.F.R. § 42.123(a) is to allow the filing of evidence relevant to a claim after the Petition, subject to constraints" such as a petitioner changing its theories).

What is more, as explained above, the proposed exhibits relate to an issue the Board invited the parties to address in related IPRs. In IPR2023-01136, for example, the Board suggested that the parties consider whether the list of WWiSE

contributors supports public availability.

Additionally, the Hansen deposition testimony was not available until after the deposition was taken in a co-pending district court case in November 2023, over four months after the petition had been submitted. INTEL-1049.

In any event, Intel files this motion well before the deadline for AX Wireless's response. The Federal Circuit has confirmed that the interest of justice supports admitting relevant evidence when the "opponent has adequate opportunity to respond and to produce contrary evidence." *Telefonaktiebolaget LM Ericsson v. TCL Corp.*, 941 F.3d 1341, 1345-46 (Fed. Cir. 2019). So it is here.

III. CONCLUSION

Intel respectfully requests the Board grant its motion to submit Exhibits INTEL-1048 – INTEL-1050 as supplemental information.

Dated: March 25, 2024

Respectfully submitted,

/ Jonathan R. Carter /

Jonathan R. Carter, Reg. No. 75,145

Attorneys for Petitioner Intel Corporation

UPDATED EXHIBIT LIST

Exhibit	Reference
1001	U.S. Patent 10,554,272
1002	File History of the ’272 patent
1003	Declaration of Thomas LaPorta, Ph.D. in Support of *Inter Partes* Review of U.S. Patent 10,079,272
1004	Curriculum Vitae of Dr. Thomas LaPorta
1005	U.S. Patent Publication 2006/0182017 to Hansen, et al (“Hansen”)
1006	IEEE 802.11-05/0149r5, “WWiSE Proposal: High Throughput Extension to the 802.11 Standard” to Kose, et al, uploaded and publicly available on July 9, 2005 (“July 2005 WWiSE”)
1007	Declaration of James L. Lansford, Ph.D.
1008	U.S. Patent Publication 2005/0243774 to Choi, et al (“Choi”)
1009	U.S. Provisional Application 61/235,909 (“the ’272 Provisional”)
1010	U.S. Patent 8,737,189 to Hansen, et al (“Hansen Patent’)
1011	U.S. Provisional Application 60/653,429 (“Hansen Provisional”)
1012	IEEE 802.11-04/0889r3, “TGn Sync Proposal Technical Specification” to Mujtaba, uploaded and publicly available on January 20, 2005
1013	IEEE 802.11-04/0886r6, “WWiSE Proposal: High Throughput Extension to the 802.11 Standard” to Hansen, et al, uploaded and publicly available on January 6, 2005 (“January 2005 WWiSE”)
1014	U.S. Patent Publication 2007/0115802 to Yu (“Yu”)
1015	IEEE Std. 802.11a-1999, “Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: High-Speed Physical Layer in the 5 GHz Band”, approved September 16, 1999 (“802.11a”)
1016	Declaration of David Ringle for 802.11a-1999 - IEEE Standard for Telecommunications and Information Exchange Between Systems – LAN/MAN Specific Requirements - Part 11: Wireless Medium Access Control (MAC) and physical layer (PHY) specifications:

Exhibit	Reference
	High-Speed Physical Layer in the 5 GHz Band, date of publication December 30, 1999
1017	IEEE Std. 802.11n-2009, "Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Amendment 5: Enhancements for Higher Throughput" ("802.11n")
1018	Editor for G.9960, "ITU-T Recommendation G.9960 Next Generation Wire-line Based Home Networking Transceivers-Foundation", ITU-T SG15/Q4, January 2009, as filed in file wrapper of the '272 patent
1019	Intellon Corporation, "G.hn: Extended PHY frame header," ITU-T SG15/Q4, 09XC-119, Xian, China, July 2009, as filed in file wrapper of the '272 patent
1020	CopperGate Communication, "G.hn: Using Two Symbols for the Header of a PHY frame on Coax," ITU-T SG15/Q4, 09XC-100, Xian, China July 2009, as filed in file wrapper of the '272 patent
1021	Lörincz, et al, "Physical Layer Analysis of Emerging IEEE 802.11n WLAN Standard", 8th International Conference Advanced Communication Technology (February 20-22, 2006); added to IEEE *Xplore* May 8, 2006
1022	Van Nee, et al., "OFDM for Wireless Multimedia Communications", Artech House Publishers (2000)
1023	Bahai, et al., "Multi-Carrier Digital Communications Theory and Applications of OFDM", Springer (2004)
1024	Tse, et al., "Fundamentals of Wireless Communication", Cambridge University (2005)
1025	Heiskala, et al., "OFDM Wireless LANs: A Theoretical and Practical Guide", Sams Publishing (2002)
1026	RESERVED
1027	Cox, "Stage Set for Compromise on IEEE High-Speed Wireless", Network World (March 21, 2005)
1028	Reardon, "New Wi-Fi Standard Takes the Slow Road", CNET (May 20, 2005)

Exhibit	Reference
1029	Mujtaba, et al., IEEE 802.11-05/786r0, "TGn Sync, WWiSE, and Mitmot Closing Report", presentation submission, submitted and publicly available on July 21, 2005.
1030	Coffey, IEEE 802.11-05/0737r0, "WWiSE IEEE 802.11n Proposal", presentation submission, submitted and publicly available on July 9, 2005
1031	Gast, "802.11 Wireless Networks: The Definitive Guide", O'Reilly (2002)
1032	Infringement Contents with Appendices served in *AX Wireless LLC v. Dell Inc. et al.*, and *AX Wireless LLC v. HP Inc.*, U.S. District Court Eastern District of Texas, Case Numbers 2:22-cv-00277 and 2:22-cv-00279, November 3, 2022
1033	U.S. Patent 7,415,074 (Appendix C to INTEL-1007)
1034	Stephens, "802.11 'Decrypted'", ACM SIGCOMM Computer Communication Review, Vol. 35, No. 2 (April 2005) (Appendix D to Lansford Declaration, INTEL-1007).
1035	Kay, "Sidebar: The Battle for 11n", ComputerWorld (March 13, 2006)
1036	"'WWiSE' Consortium, Motorola Team on Proposal for IEEE 802.11n", Wireless Design Online (February 24, 2005)
1037	WWiSE Industry Organization Press Release, "'WWiSE' Consortium and Motorola Team to Offer Enhanced Proposal for IEEE 802.11n" (February 24, 2005); *archived* on April 6, 2005 at https://web.archive.org/web/20050406073808/http://www.wwise.org/pressreleasefeb23.htm.
1038	IEEE 802.11-04/422r4, "New Participant Orientation", presentation submission (July 2004) (Appendix A to Lansford Declaration, INTEL-1007)
1039	IEEE 802.11-04/736r1, "Approved Minutes of the IEEE P802.11 Full Working Group", Minutes (July 2004) (Appendix B to Lansford Declaration, INTEL-1007)
1040	O'Hara, The IEEE 802.11 Handbook, Standards Information Network, IEEE Press, 1999

Exhibit	Reference
1041	Strom, "An overview of the IEEE 802.11 standard's evolution," EE Times (Oct. 31, 2006)
1042	Jan. 11, 2024 Letter from Sarah Piepmeier letter to Kevin Wheeler regarding Dell Stipulation
1043	Jan. 11, 2024 Letter from Sarah Piepmeier letter to Kevin Wheeler regarding Lenovo Stipulation
1044	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
1045	Third Amended Docket Control Order, *AX Wireless LLC v. Lenovo Grp. Ltd.*, No. 2:22-cv-00280-RWS-RSP (E.D. Tex. Oct. 31, 2023), ECF No. 130
1046	Docket Control Order, *LightGuide, Inc. v. Amazon.com, Inc., et al*, No. 2:22-cv-00433-RWS-RSP (E.D. Tex. May 15, 2023)
1047	Docket Control Order, *Textron Innovations Inc., v. SZ DJI Tech. Co., Ltd, et al*, No. 2:22-cv-0351-RWS-RSP (E.D. Tex. May 11, 2023)
1048	Supplemental Declaration of James L. Lansford, Ph.D.
1049	Deposition Transcript of Christopher Hansen, Ph.D.
1050	Declaration of Matthew W. Hindman

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing **PETITIONER'S MOTION TO SUBMIT SUPPLEMENTAL INFORMATION PURSUANT TO 37 C.F.R. § 42.123(a)** and **Exhibits INTEL-1048 – INTEL-1050** was served in its entirety this 25th day of March, 2024 by electronic mail on the Patent Owner via its attorneys of record:

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