UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION,
Petitioner,

v.

INTERDIGITAL PATENT HOLDINGS, INC.,
Patent Owner.

IPR2024-00306
Patent 9,173,054

PETITIONER'S REPLY TO THE PATENT OWNER RESPONSE

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EXHIBIT LIST

LIST OF NEWLY FILED EXHIBITS

Exhibits concurrently filed with Petitioner's Reply To Patent Owner's Response:

No.	Description
1085	N/A
1086	Reply Declaration of Peter Rysavy dated December 19, 2024
1087	Amritanshu Mukherjee, *AirDrop vs. Nearby Share vs. Quick Share: Which is the Best File Transferring Service for Devices?* (July 20, 2023) https://www.augustman.com/in/gear/tech/airdrop-vs-nearby-share/
1088	Deposition Transcript of George Edwards, dated December 3, 2024
1089	Patent Owner Response (Paper 14) *Microsoft Corporation v. Interdigital Patent Holdings, Inc.*, IPR2024-00538 (Oct. 7, 2024, P.T.A.B.)

LIST OF PREVIOUSLY FILED EXHIBITS

No.	Description
1001	U.S. Patent No. 9,173,054 ("**the '054 Patent**")
1002	File History of U.S. Patent No. 9,173,054
1003	Declaration of Peter Rysavy, dated December 20, 2023 ("**Rysavy Decl.**")
1004	U.S. Patent Application Pub. No. 2009/0298419 to Ahya et al. ("**Ahya**")

No.	Description
1005	U.S. Patent Application Pub. No. 2008/0166967 to Christopher D. McKillop ("**McKillop**")
1006	International Patent Application Pub. No. WO 2005/1072895 to J. Peter Hoddie ("**Hoddie**")
1007	U.S. Patent Application Pub. No. 2007/0191028 to Hinckley et al. ("**Hinckley**")
1008	Sidhu et al., *Emerging Wireless Standards – WiFi, ZigBee and WiMAX*, International Journal of Electronics and Communication Engineering Vol. 1 No. 1, at 43-48 (2007)
1009	Harry Newton, Newton's Telecom Dictionary, 20th Updated and Expanded Edition (excerpted) (2004)
1010	U.S. Patent Application Pub. No. 2009/0034498 to Banerjea et al. ("**Banerjea**")
1011	N/A
1012	U.S. Patent Application Pub. No. 2007/0135046 to Kapur et al. ("**Kapur**")
1013	U.S. Patent Application Pub. No. 2009/0215398 to Adler et al. ("**Adler**")
1014	Bluetooth Specification Version 1.1, Vol. 2, "Profiles" (Feb. 22, 2001)
1015	Megowan et al., Infrared Data Association® (IrDA®) Object Exchange Protocol OBEX™ Version 1.3 (Jan. 3, 2003).
1016	Postel et al., RFC 959, File Transfer Protocol (FTP) (Oct. 1985)
1017	K. Sollins, RFC 1350, The TFTP Protocol (Revision 2) (Jul. 1992)
1018	Frodigh et al., *Wireless ad hoc networking—The art of networking without a network*, Ericsson Review No. 4, at 248-263 (2000)
1019	U.S. Patent Application Pub. No. 2007/0146347 to Louis B. Rosenberg ("**Rosenberg**")

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1020	Cheverst et al., *Exploring Bluetooth based Mobile Phone Interaction with the Hermes Photo Display*, Proceedings of the 7th International Conference on Human Computer Interaction with Mobile Devices and Services, at 47-54 (Sep. 2005)
1021	User's Guide for Nokia N72 (2006)
1022	U.S. Patent No. 7,356,347 to David Kammer ("**Kammer**")
1023	Phil Karn, *MACA - A New Channel Access Method for Packet Radio*, The Proceedings of the 9th ARRL Computer Networking Conference, at 134-140 (1990)
1024	Chatzimisios et al., *Optimisation of RTS/CTS handshake in IEEE 802.11 Wireless LANs for maximum performance*, IEEE Communications Society Globecom 2004 Workshops, at 270-275 (2004)
1025	Nokia 9500 Communicator User Guide (2004-2005)
1026	User's Guide for Nokia N95 (2007)
1027	U.S. Patent Application Pub. No. 2005/0113079 to Hui Guo ("**Guo**")
1028	U.K. Patent Application Pub. No. GB 2,439,364 to Turner et al. ("**Turner**")
1029	U.S. Patent Application Pub. No. 2004/0242216 to Demetrios Boutsikakis ("**Boutsikakis**")
1030	U.S. Patent No. 7,043,548 to Stephane Bouet ("**Bouet**")
1031	Brad A. Myers, The Importance of Percent-Done Progress Indicators for Computer-Human Interfaces, Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (Apr. 1985)
1032	U.S. Patent Application Pub. No. 2009/0140986 to Karkkainen et al. ("**Karkkainen**")
1033	U.S. Patent Application Pub. No. 2007/0124503 to Ramos et al. ("**Ramos**")

No.	Description
1034	U.S. Patent No. 8,059,111 to Phil Harrison ("**Harrison**")
1035	U.S. Patent Application Pub. No. 2006/0026521 to Hotelling et al. ("**Hotelling '521**")
1036	Westerman et al., *Multi-Touch: A New Tactile 2-D Gesture Interface For Human-Computer Interaction*, Proceedings of the Human Factor and Ergonomic Society 45th Annual Meeting, at 632-636 (2001)
1037	Jun Rekimoto, *Pick-and-Drop: A Direct Manipulation Technique for Multiple Computer Environments*, Proceedings of the 10th annual ACM symposium on User interface software and technology, at 31-39 (1997)
1038	U.S. Patent Application Pub. No. 2008/0009309 to Hwang-hyeon Gha ("**Gha**")
1039	Pravin Bhagwat, *Bluetooth: Technology for Short-Range Wireless Apps*, at 96-103 (Jun. 2001)
1040	N/A
1041	N/A
1042	U.S. Patent Application Pub. No. 2003/0134629 to Ollis et al. ("**Ollis**")
1043	N/A
1044	U.S. Patent Application Pub. No. 2006/0097991 to Hotelling et al., ("**Hotelling '991**")
1045	U.S. Patent Application Pub. No. 2008/0168384 to Platzer et al. ("**Platzer**")
1046	U.S. Patent No. 7,479,949 to Jobs et al., ("**Jobs**")
1047	U.S. Patent Application Pub. No. 2008/0143685 to Lee et al. ("**Lee**")
1048	File History of U.S. Patent No. 8,200,265
1049	U.S. Patent No. 8,200,265 to Carlton et al. ("**the '265 patent**")

No.	Description
1050	File History of U.S. Patent No. 8,478,207
1051	U.S. Patent No. 8,478,207 to Carlton et al. ("**the '207 patent**")
1052	N/A
1053	Bluetooth Specification Version 1.1, Vol. 1, "Core" (Feb. 22, 2001)
1054	European Patent Application Pub. No. 1,489,783 to Anders Angelhag ("**Angelhag**")
1055	U.S. Patent Application Pub. No. 2005/0289195 to Lehtola et al. ("**Lehtola**")
1056	N/A
1057	Information Disclosure Statement for Lehtola filed June 23, 2004
1058	Affidavit of Nathaniel E. Frank-White, Records Request Processor at the Internet Archive ("Frank-White") Authenticating Exhibits 1014-1015, 1053, and 1060-1062
1059	Affidavit of Scott Delman, Director of Publication at the Association for Computing Machinery Authenticating Exhibit 1020
1060	User Guide for Nokia N91 (2006)
1061	User Guide for Nokia N75 (2006)
1062	User Guide for Nokia 9300 (2005)
1063	N/A
1064	User Guide for the Sony CLIE (2001)
1065	David Pogue, iPhone The Missing Manual (1st ed. Aug. 2007)
1066	U.S. Provisional Patent Application No. 61/140,126 to Carlton et al. ("**the '126 provisional**")
1067	U.S. Patent Application Pub. No. 2007/0011335 to Burns et al. ("**Burns**")

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1068	Yardena Arar, *Bluetooth to work with Wi-Fi*, NetworkWorld (February 12, 2008)
1069	Staff's Proposed Claim Constructions, *Certain Electronic Devices, Including Smartphones, Computers, Tablet Computers, And Components Thereof*, Inv. No. 337-TA-1373 (Dec. 4, 2023)
1070	InterDigital's Proposed Claim Constructions, *Certain Electronic Devices, Including Smartphones, Computers, Tablet Computers, And Components Thereof*, Inv. No. 337-TA-1373 (Nov. 30, 2023)
1071	U.S. Patent No. 8,737,933 ("**the '933 Patent**")
1072	File History of U.S. Patent No. 8,737,933
1073	U.S. Patent Application No. 12/128,497 to Ahya et al. ("**As-Filed Ahya Application**")
1074	U.S. Patent Application Pub. No. 2005/0281237 to Heinonen et al. ("**Heinonen**")
1075	Full Claims Listing (1, 3-10, 12, 14-15, 21, 23, 25-32, 34, 36-37, 43, 46-47, 49-50)
1076	U.S. Patent No. 7,102,640 to Aholainen et al. ("**Aholainen**")
1077	Bluetooth Technology To Harness The Speed Of 802.11, Feb 11, 2008
1078	Megowan et al., Infrared Data Association® (IrDA®) Object Exchange Protocol OBEX™ Version 1.5 (Aug. 14, 2009).
1079	U.S. Patent No. 7,333,514 to Anehem et al. ("**Anehem**")
1080	U.S. Patent Application No. 11/804,359 to McKillop et al. ("**As-Filed McKillop Application**")
1081	Defendant Lenovo's Supplemental Notice Regarding Prior Art Invalidity Grounds, Document No. 96, Case No. 5:23-cv-00493 (E.D.N.C.)
1082	United States District Courts Judicial Caseload Profile
1083	Declaration of Shelby A. Stepper dated October 24, 2024

No.	Description
1084	Corrected Declaration of Shelby A. Stepper dated November 15, 2024

I. INTRODUCTION

The Patent Owner Response (Paper 22, "POR") does not dispute the Petition's showing that POSITAs would have been motivated with a reasonable expectation of success to implement the prior art combinations proposed in Grounds 1-3 and that these combinations collectively satisfy all elements of the challenged claims.

Instead, the POR argues only alleged secondary considerations of nonobviousness. These arguments fail, however, at least because (1) Patent Owner has not met its burden to show a nexus between the alleged secondary considerations and the challenged claims and (2) the exhibits submitted by Patent Owner show that any alleged secondary considerations derive from extraneous factors such as unclaimed features, preexisting market dominance, and features known in the prior art. The alleged secondary considerations are thus insufficient to outweigh the strong prima facie showing of obviousness.

There is no presumption of nexus for at least two reasons. *First*, AirDrop does not embody the claims, as Patent Owner's cited exhibit shows that an AirDrop sending device detects other devices using Wi-Fi, not Bluetooth, thus failing to meet the claimed "[detecting/detect] … over bluetooth." *Second*, AirDrop includes significant features that materially impact its functionality and are not attributable to the claims, including privacy/visibility features, security features, and features deriving from its tight integration with the Apple ecosystem.

Patent Owner makes no meaningful attempt to show a nexus in fact between the claims and the alleged secondary considerations. Nor could it, at least because (1) Apple released AirDrop before Patent Owner ever described the claimed technology, thus belying Patent Owner's suggestion that AirDrop was derived from the patent; (2) there is no license of record, much less evidence showing nexus between the claims and any license; (3) there is no evidence showing market share or anything else that could establish commercial success; (4) supposed "industry commentary" has not been sufficiently tied to the claims and does not show any long-felt need that was resolved by the '054 patent; and (5) features touted by Patent Owner as driving secondary consideration were well known in the prior art.

The strong showing of obviousness is not overcome by Patent Owner's speculative secondary considerations and the claims should be held unpatentable. *See e.g.*, *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1333 (Fed. Cir. 2009) (finding "unsupported contentions" of secondary considerations were "legally insufficient" and noting that "'evidence of secondary considerations does not always overcome a strong prima facie showing of obviousness'") (internal citations omitted).

II. <u>PATENT OWNER HAS NOT SHOWN A PRESUMPTION OF NEXUS</u>

A patent owner "bears the burden of showing that a nexus exists" between the claims and the evidence of secondary considerations. *Fox Factory, Inc. v. SRAM,*

LLC, 944 F.3d 1366, 1373 (Fed. Cir. 2019). A rebuttable presumption of nexus may be established if a patent owner shows that a specific product (1) "embodies the claimed features," and (2) "is coextensive with [the claimed features]." *Id.* (citations omitted).

Here, the "product" identified by Patent Owner is the AirDrop functionality developed by third party Apple, which pre-installs AirDrop on its products. *AirDrop does not embody the claims*, at least because it does not perform the claimed "detecting, by the WTRU using Bluetooth, a plurality of other WTRUs." And *AirDrop is not coextensive with the claims* at least because it is a relatively minor software component of the Apple devices and derives any success from being a seamless part of the Apple ecosystem. Moreover, many significant AirDrop features are not claimed by the '054 patent, further disproving coextensiveness. For at least these reasons, Patent Owner has not established a presumption of nexus.

A. AirDrop Does Not Embody The Claimed Features Because Any Detecting Is Done Using Wi-Fi, Not Bluetooth

Claim elements [1.3] and [23.3] require that a sending device detect another device over Bluetooth, e.g., element [1.3] recites, "detecting, by the WTRU over bluetooth, another WTRU." EX1001, 10:57; *see also id.* at 11:64-65 ("circuitry configured to detect, by the WTRU over bluetooth, another WTRU").

Patent Owner argues that AirDrop practices these claim elements because an AirDrop device wishing to send content (a "sending device") emits a Bluetooth

signal. *See* Paper 22, 16-18, 27-29. While *another* nearby device might "detect the [Bluetooth] signal," no Bluetooth signal is detected by the sending device as required by the claims. Instead, the sending device uses "peer-to-peer Wi-Fi" to "discover the identity of" (i.e., detect) other devices:

> As shown below, when a user selects AirDrop as the method for sharing an item, the user's device emits a Bluetooth signal. "Other Apple devices that are awake, in close proximity, and have AirDrop turned on, detect the signal and respond using peer-to-peer Wi-Fi, so that the sending device can discover the identity of any responding devices." Ex-2014, 2 (Ex-2055, 89-91); Ex-2020, 2 (Ex-2055, 74-78) ("When you've got something you want to share, AirDrop shows you your contacts close by.").

Paper 22, 17 (highlighting added); *see also id.*, 16-18, 27-29 (quoting EX2014, 2 (EX2055, 89-91); EX2020, 2 (EX2055, 74-78)). This shows that any detection of nearby devices occurs using Wi-Fi, not Bluetooth, and thus AirDrop does not embody the claims. EX1086, ¶¶7-8.

At best, the Bluetooth signal emitted by the sending device *solicits* nearby devices to respond using Wi-Fi. But any detecting by the sending device happens separately, using identity information sent over peer-to-peer Wi-Fi. *Id.*, ¶9. The '054 patent confirms that solicitation and detection are distinct acts, and thus using

Bluetooth for solicitation is not using Bluetooth for detection. *Id.*, ¶10. For example, FIG. 4 shows that detection occurs "in response to solicitation":

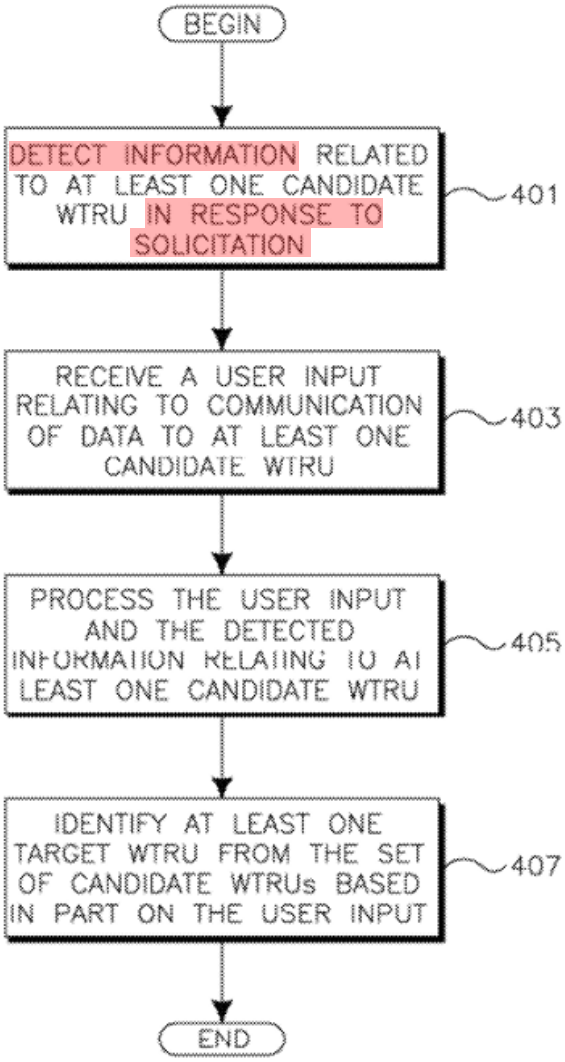

FIG. 4

EX1001, Fig. 4 (highlighting added). Consistent with this, the '054 patent describes that information on nearby devices is solicited and then, in a separate act, detected: "Environment *information 301 is solicited* and *information* related to at least one candidate WTRU 101c … *is detected* 401." *Id.*, 7:8-11 (emphasis added).

On their face, the claims recite the sending device detecting over Bluetooth, not performing some other preceding step (such as soliciting) over Bluetooth. EX1001, 10:57, 11:64-65. Consistent with the plain reading of the claims, Patent Owner elsewhere quoted its expert's characterization of the claimed subject matter as "including Bluetooth detection of a nearby WTRU and the transfer of data to the detected WTRU using WiFi." EX1089, 11 (Patent Owner Response in IPR2024-00538) (internal citations omitted); *see also id.*, 2 ("Bluetooth-detected WTRU"); *id.*, 13 ("Bluetooth detection of proximate WTRUs"); *id.*, 16, 20, 26. Similarly, dependent claims recite detecting using a Bluetooth service discovery protocol (SDP) (*e.g.*, claims 9-10), and the written description describes using Bluetooth for discovery (EX1001, 5:38-6:3) but makes no mention of using Wi-Fi for discovery or detection. EX1086, ¶¶11-12.

Thus, the claimed "[detecting/detect], by the WTRU over Bluetooth" requires that the sending device detect another device using a Bluetooth signal sent by that other device. EX1001, 10:57, 11:64-65; EX1086, ¶13. As an AirDrop sending device at best detects other devices using Wi-Fi signals sent by those other devices, it does not embody the claims and there is no presumption of nexus. *Id.*, ¶14.

B. <u>AirDrop Is Not Coextensive With The Claims</u>

A presumption of nexus also requires a patent owner to show that the product is coextensive with the claims and does not include any significant additional

unclaimed features. *See Volvo Penta of the Americas, LLC v. Brunswick Corp.*, 81 F.4th 1202, 1211 (Fed. Cir. 2023) ("coextensiveness is a separate requirement"). Unclaimed features are significant, for example, if they "materially impact the functionality of" the product. *Fox Factory*, 944 F.3d at 1376.

Patent Owner pays lip service to coextensiveness but provides no analysis and points only to its claim charts supposedly showing how AirDrop embodies the claims, thus conflating the two requirements. Paper 22, 33 ("The mappings evidence the embodiment of the claimed inventions in AirDrop and show that AirDrop is coextensive …."), 34 ("[A]s shown in detail in the tables provided above, the patented invention is coextensive with AirDrop …."). That lack of analysis and evidence, alone, is fatal to Patent Owner's presumption arguments. *Volvo*, 81 F.4th at 1211 (affirming Board finding that Patent Owner's conclusory arguments on coextensiveness, which cited evidence relating only to whether the product embodied the claims, were insufficient to show a presumption of nexus); *see also Google LLC v. Zipit Wireless, Inc.*, IPR2019-01568, Paper 39 at 28 (P.T.A.B. Mar. 9, 2021) (finding patent owner failed to meet its burden by offering "no analysis of the coextensiveness of claim 11 with the Zipit devices beyond the conclusory statement that the products embody the claim").

Moreover, AirDrop includes significant, unclaimed features, including device visibility controls implemented using iCloud services-based authentication; security,

including encryption; and tight integration within the Apple ecosystem. EX1086, ¶15.

With its device visibility feature, unclaimed by the ’054 patent, “[b]y default, AirDrop only makes you discoverable to people who are in your contacts list.… This feature ensures you won’t just appear in other people’s AirDrop panels as you walk around.” EX2027, 2.[1] AirDrop utilizes iCloud services, which provides information used to create “an AirDrop short identity hash,” which in turn facilitates device visibility controls. EX2014, 2. Patent Owner’s expert acknowledged the importance of this feature as “[d]evice visibility was also important to give users the sense that they could still control their privacy.” EX2001, ¶137; *see also id*., ¶60 (AirDrop has “the ability to limit access to a user’s AirDrop whether based on contacts, open to everyone, or completely disabled”); EX2009, 5 (“Contacts Only: Only your contacts can see your device.”) (cited by EX2001, ¶60). Thus, this unclaimed feature materially impacts the functionality of AirDrop. EX1086, ¶16.

AirDrop also includes security features not claimed by the ’054 patent. AirDrop’s file-sharing is “‘fully encrypted’” to address users’ “security concerns”

[1] In citing to Patent Owner’s exhibits, Petitioner does not concede that they constitute admissible evidence entitled to weight. To the extent given weight, these exhibits disprove rather than establish nexus.

over wirelessly sharing files with nearby devices. EX2023, 5. "iCloud identity certificates," also unclaimed, are used as part of verifying the encrypted connection. EX2014, 2. Patent Owner's expert confirmed this feature's importance, stating that AirDrop's "encryption on the peer-to-peer connection [] prevents unauthorized access or interception of shared files." EX2001, ¶59. Thus, this unclaimed feature materially impacts the functionality of AirDrop. EX1086, ¶17.

Patent Owner's expert explained that several other features—none claimed by the '054 patent—supposedly make AirDrop superior to other technologies, such as Google's Files Go and Nearby Share. EX2001, ¶¶115-116, 118, 124, 126-128. By supposedly distinguishing AirDrop from other offerings, these features materially impact the functionality of AirDrop. EX1086, ¶19. For example, unlike other file sharing solutions that require an initial download and setup and that the user open the separate application to transfer files, AirDrop comes pre-installed for use and requires no separate application. EX2001, ¶116 (AirDrop requires "no setup"); *id.*, ¶128 (citing EX1087, 3 ("Nearby Share needs to be downloaded," has "a complex setup process," and requires the app be "opened to allow file sharing"); *see also* EX2030, 1 (describing need to download and install Nearby Share); 2045, 1-2 (same); EX1086, ¶20. AirDrop's operating system integration allows sending and receiving files from within the application specific to the type of file. EX2015, 2-3 ("[T]he AirDrop will come through within the same app it was sent from.");

EX1086, ¶22. This integration also means there is no need to wait for intended recipients to open a separate application because "AirDrop lets you send files from any app to any nearby contact, even if they don't have the same app." EX2035, 2 (quoted by EX2001, ¶124); *id.* (contrasting with Google, where "[b]oth people need to have the Files Go app open"); EX1086, ¶21.

Furthermore, AirDrop benefited from the Apple ecosystem and market dominance, neither of which could be claimed by the '054 patent. *Infra* Section III.C-D.

These significant unclaimed features "materially impact the functionality of" AirDrop and confirm that Patent Owner has not shown a presumption of nexus. EX1086, ¶18; *Fox Factory*, 944 F.3d at 1376; *Bose Corp. v. Koss Corp.*, IPR2021-00680, Paper 37 at 98-104 (P.T.A.B. Oct. 7, 2022) (finding no presumption of nexus because *inter alia* the "Apple brand" and "integration with Apple's ecosystem" and other unclaimed features were significant to the AirPod products); *see also id.* at 105 (finding "the Apple brand (which includes its 'ecosystem') is an important factor in the AirPod's commercial success" and that "'integration with Apple's ecosystem' is an unclaimed feature") (internal citations omitted). Moreover, certain features show that AirDrop at best is a software component of Apple products, further confirming the lack of nexus. *See Fox Factory*, 944 F.3d at 1377 (no presumption where the

functionality "is only a component of a commercially successful machine or process") (quotation marks and citation omitted).

C. Even Were AirDrop *Arguendo* Embodied By And Coextensive With The Claims, The Evidence Rebuts Any Presumption Of Nexus

Even had Patent Owner established a presumption of nexus, it would be rebutted because any alleged AirDrop objective indicia were due, not to the claimed method, but rather to (i) extraneous factors such as Apple's market share and ecosystem (*infra* Section III.C-D); (ii) unclaimed features such as enhanced security, privacy, ease of use, and ability to accept/reject a transfer (*supra* Section II.B; *infra* Section III.C); and (iii) features known in the art, such as detection over Bluetooth and transfer over Wi-Fi (*e.g.*, *infra* Section III.E). *See e.g.*, *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006) ("[T]he evidence clearly rebuts the presumption that Invisalign's success was due to the claimed and novel features."); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1393 (Fed. Cir. 1988) (presumption rebutted when alleged secondary considerations "due to extraneous factors other than the patented invention").

III. THE ALLEGED OBJECTIVE INDICIA LACK NEXUS AND DO NOT OVERCOME THE STRONG SHOWING OF OBVIOUSNESS

Absent a presumption, a patent owner can only establish nexus "by showing that the evidence of secondary considerations is the 'direct result of the unique characteristics of the claimed invention.'" *Fox Factory*, 944 F.3d at 1373-74

(quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)). Courts sometimes refer to this as "nexus in fact" (*Magseis FF LLC v. Seabed Geosolutions (US) Inc.*, 860 F. App'x 746, 751 (Fed. Cir. 2021)) and it requires "a nexus to some aspect of the claim *not already in the prior art*." *E.g.*, *In re Kao*, 639 F.3d 1057, 1068-69 (Fed. Cir. 2011) (emphasis added); *see also Yita LLC v. MacNeil IP LLC*, 69 F.4th 1356, 1364 (Fed. Cir. 2023); *Campbell Soup Co. v. Gamon Plus, Inc.*, 10 F.4th 1268, 1277 (Fed. Cir. 2021).

Patent Owner acknowledges this requirement (Paper 22, 35), but its arguments merely circle back to its deficient presumption of nexus arguments and do not show how any license, commercial success, praise or other supposed consideration are the direct result of any aspect of the claimed invention. *E.g.*, *id.* (alleging that the praise "relates to praise for Apple AirDrop which, as shown in the tables above, embodies the invention recited in Challenged Claims 1 and 23"); *id.*, 35-36 (arguing presumption instead of attempting to show that alleged secondary considerations result directly from the unique characteristics of the claims). Moreover, the supposed secondary considerations are due to unclaimed features or other extraneous factors, thus confirming the lack of a nexus to the challenged claims. For example, the exhibits show that any AirDrop success was due largely (if not exclusively) to Apple's integrated ecosystem and dominant market share, not to any distinguishing technical features. Patent Owner has not shown "nexus in fact

because the evidence of secondary considerations is not tied to the claimed invention's unique characteristics." *Magseis*, 860 F. App'x at 752.

Finally, Patent Owner's briefing (but not so much its exhibits) focuses on the prior art feature of Bluetooth-for-detection and Wi-Fi-for-transfer. Secondary considerations flowing from the use of such prior art techniques as a matter of law cannot support non-obviousness. *Ormco*, 463 F.3d at 1312 ("[I]f the feature that creates the commercial success was known in the prior art, the success is not pertinent.").

In sum, the alleged objective indicia's "relationship to the claims is simply too attenuated to overcome the strong prima facie demonstration" of obviousness. *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1327 (Fed. Cir. 2008).

A. AirDrop Cannot Support Any Objective Indicia Because AirDrop Was Released Before The Named Inventors Claimed Or Described The Claimed Features

AirDrop for mobile devices was released over six months before the challenged claims were filed. *Compare* Paper 22, 10 (AirDrop released September 18, 2013) *with* EX1002, 27-35 (April 11, 2014); *see also* Petition (Paper 2) at 12-13. The '054 patent did not issue until October 27, 2015. The timeline suggests that applicants derived the claimed concept from AirDrop rather than vice versa. Patent Owner cannot credibly claim secondary considerations based on another party's feature that was on the market before the named inventors had described or claimed

the supposed invention. *Cf. Chums, Inc. v. Cablz, Inc.*, IPR2014-01240, Paper 43 at 28-29 (P.T.A.B. Feb. 8, 2016) (no copying where *inter alia* claims issued after sales of allegedly copying product).

B. There Is No License Of Record And Patent Owner's Licensing Arguments Should Be Given No Weight

Patent Owner discusses a supposed patent license (Paper 22, 37) but there is no license of record, much less evidence showing a license that arose from the claimed subject matter. Thus, PO's license-based arguments should be afforded no weight. *See In re Affinity Labs of Texas*, *LLC*, 856 F.3d 883, 901-902 (Fed. Cir. 2017) (affirming Board decision affording licensing argument little weight in part because the purported license was not of record). [2]

[2] Patent Owner blames its failure to introduce the license on Petitioner (Paper 22, 36-37 n.2), but Patent Owner sought an overly restrictive multi-tiered protective order that included a per se bar against any in-house counsel for Petitioner seeing exhibits with certain designations. Because such a per se bar could prejudicially prevent in-house counsel from making informed decisions regarding this IPR, Petitioner proposed a compromise allowing limited in-house access upon request (not by default). Patent Owner did not accept this compromise.

C. There Is No Evidence Of Commercial Success, And No Nexus To Any Supposed Evidence Of Industry Praise

Patent Owner argues supposed commercial success of AirDrop (Paper 22, 37-39) but provides no evidence of sales or market share, which is fatal to its arguments. *See In re Applied Materials, Inc.*, 692 F.3d 1289, 1300 (Fed. Cir. 2012) ("Just as the number of units sold without evidence of the market share is only weak evidence of commercial success, … so too is an assertion of market share lacking in sales data.") (internal citations omitted); *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) (commercial success is "usually shown by significant sales in a relevant market").

Lacking sales or market data, Patent Owner urges that commercial success "is evident from industry commentary." Paper 22, 38; *see generally id.*, 38-39. Even were that a viable path to showing commercial success (it is not), the cited exhibits (*e.g.*, EX2023-EX2029) should be given no weight because Patent Owner has not shown that they reflect any broad industry sentiment or include statements based on actual use of AirDrop or that the authors had sufficient industry knowledge to lend credibility to the statements. *See e.g.*, *Nested Bean, Inc. v. Big Beings USA Pty Ltd*, IPR2020-01234, Paper 34 at 46-47 (P.T.A.B. Jan. 24, 2022) (giving limited weight to online customer reviews where the Board had "no way of knowing whether the people reviewing the products on these general websites actually purchased and used

the product" and "no way of knowing the reviewers' knowledge about the industry and other products") (modified for other reasons by IPR2020-01234, Paper 42).

Even if considered, the cited exhibits show that any industry praise or success resulted from extraneous factors, not from any non-novel claim features. EX1086, ¶18. For example, while one exhibit notes AirDrop's "*potential* to spur new forms of sharing digital content" (EX2023, 5), it also described AirDrop as "not particularly revolutionary" (*id.*, 2) and cautioned that, "in practice, AirDrop may ultimately deliver limited user value" (*id.*, 3). It also attributed any AirDrop success to "leverag[ing] the core strengths of Apple's unified ecosystem." *Id.*, 2-3; *see also id.*, 4 ("Apple's ecosystem control delivers enhanced benefits to users"). In discussing the Apple "Ecosystem Benefits," the exhibit notes as advantages that AirDrop "comes pre-installed," that "[e]very device with AirDrop will offer the same user experience," that AirDrop could "transfer files one-to-many" (*id.*, 3) and that AirDrop "works by moving media through the cloud" (*id.*, 4). *See also id.* (noting lack of "common experience" for other non-Apple devices). It also emphasizes Apple's "massive potential user base." *Id.* ("[A]t least 550 million devices are now running iOS 6."). Patent Owner's expert agreed that this described AirDrop's success as "a function of Apple's importance in the marketplace as opposed to a technical difference." EX1088, 15:21-23. Other exhibits also explain how "Apple is really the only company that offers a complete device ecosystem"

and how that means other companies' "prospects for competing with AirDrop are slim." EX2034, 2.

The exhibits also highlight "security concerns" (EX2023, 5 ("security will clearly be an issue")) and states that "users must have very easy controls over what content they choose to accept, when and from whom" (*id.*, 6), further confirming that AirDrop's unclaimed security/privacy features were critical and thus prevent (or rebut) any nexus. *See supra* Section II.B.

This all tends to show that AirDrop's success came from external factors such as "Apple's unified ecosystem" and AirDrop's one-to-many file transfers and use of the cloud, none of which are claimed by the '933 patent, thus disproving nexus. *Ormco*, 463 F.3d at 1312; *see also Demaco*, 851 F.2d at 1393 (commercial success may be given little weight when "due to extraneous factors other than the patented invention, such as advertising, superior workmanship, etc."); *Bose*, IPR2021-00680, Paper 37 at 98-105.

Other "praise" in the exhibits is of a highly generalized nature or also relates to unclaimed features. Whether AirDrop was "frictionless" or a "great way to share files" (Paper 22, 38) or was a "staple iOS feature" or "works entirely wirelessly over Bluetooth" (Paper 22, 39) is irrelevant because it is untied to the claims. *E.g.*, *ClassCo, Inc. v. Apple, Inc.*, 838 F.3d 1214, 1220 (Fed. Cir. 2016) (praise relating to general features or to those found in the in the prior art is insufficient).

Finally, there are at least three flaws in Patent Owner's assertion that AirDrop "differentiated itself … by utilizing Bluetooth detection to create a peer-to-peer system for Wi-Fi transmission of media between devices" (Paper 22, 39). *First*, Patent Owner's exhibits indicate that detection occurs over Wi-Fi (not Bluetooth). *Supra* Section II.A. *Second*, the exhibits are inconsistent, as one exhibit quoted by Patent Owner suggests AirDrop did not use Wi-Fi for transmission because "'AirDrop works *entirely wirelessly over Bluetooth*.'" *Id.* (quoting EX2027, 1) (emphasis added); *see also* EX2027, 3 (describing AirDrop as "sending [content] wirelessly via Bluetooth"). *Third*, even had AirDrop bettered the competition by "utilizing Bluetooth detection to create a peer-to-peer system for Wi-Fi transmission" (nothing suggests this was the case), this was well known in the prior art and thus cannot support any secondary considerations. *See infra* Section III.E.

D. Patent Owner Has Not Shown Copying Or Long-Felt Need

Patent Owner discusses several other file-sharing applications, in an apparent attempt to show "the Need to Copy AirDrop's Vast Commercial Success" and "Customers' Long-Felt but Unresolved Needs." Paper 22, 40-51. Whether directed to copying or long-felt need, these arguments fail and do not overcome the strong showing of obviousness.

To the extent Patent Owner argues "copying" (Paper 22, 40-49), those arguments fail because Patent Owner has not shown that any of the supposed

AirDrop "copies" embody the challenged claims or that they share files in the same way as AirDrop. Moreover, the exhibits show that others were not facing any technical hurdles to file transfer, but were rather attempting to solve issues unique to those who lacked Apple's ecosystem.

For example, the exhibits describe the file-sharing application "Bump" as successful *prior* to AirDrop. EX2028, 1 ("high download rates"); EX2032, 2 (more than 125m downloads … used to send more than 1bn photos"). Another exhibit suggests that Apple incorporated Bump file-sharing ideas into AirDrop, explaining how "iOS 7 is partially a curation of successful … features and built-in apps that debuted elsewhere," just before noting that "Bump must feel bumped by AirDrop." EX2033, 2 ("[D]evelopers accept that the best of their ideas may someday be incorporated into the [Apple] mothership."). The article does not indicate that AirDrop provided a technical advantage but rather that it benefited from Apple being a "colossus" that sometimes "stepped on" application developers. *Id.*

Exhibit 2034 confirms that AirDrop benefited from the Apple ecosystem, not from any technological advantage. After noting technological differences between AirDrop and Google Nearby Share (thus disproving any copying), the exhibit concludes "they both work pretty easily" and "[t]ransfer times are low, and ease-of-use is high." EX2034, 1 ("[B]oth AirDrop and Nearby Share are similarly easy to use, and about as effective as each other."). It makes clear that the Apple ecosystem

gives AirDrop its edge: "there's still one way in which AirDrop is better … That's the ecosystem." *Id.*; *see also id.*, 2 (explaining how device incompatibility "severely limits Nearby Share's usability"); *id.* (touting AirDrop ability to share files with "*all* of your own Apple devices" and "*all* of your friends' Apple devices"); *id.* ("It's hard to imagine how Google could make a better experience with Android Nearby Share. … but without the weight of a full ecosystem of products behind it, it can't compete.").

Patent Owner has made no showing that other applications practice the claims or were copies of AirDrop. These other applications similarly allowed for file sharing between devices but differed in how they did so. For example, unlike AirDrop, Nearby Share used Bluetooth, Wi-Fi, and NFC communications. EX2034, 1; *see also* EX2052, 1 ("Bluetooth, Bluetooth Low Energy, WebRTC, or peer-to-peer WiFi"). Patent Owner cites EX2045 as evidence that Nearby Share is an "AirDrop clone" but that exhibit provides no details showing copying, much less that Nearby Share practices the claims. Moreover, the document suggests that the barrier faced by Google was inter-ecosystem file-sharing because users needed to download and install specific applications and log in to certain accounts to transfer files between, e.g., an Android device and a Windows device. EX2045, 1-2. Other Exhibits at best show that Google Quick Share was "AirDrop-like" (EX2047, 1) or "quite similar" to AirDrop (*id.*, 2), which is insufficient to establish copying.

Similarly insufficient are assertions that Files Go "works a lot like Apple's AirDrop" (Paper 22, 41), especially when Files Go used Bluetooth to transfer files (EX2035, 1). The exhibits describe Microsoft's Nearby Share as used only for PCs (EX2050, 2), not mobile devices, and that it uses "Bluetooth *or* Wi-Fi" (*e.g.*, EX2049, 1) not detection over Bluetooth and then transfer over Wi-Fi. Moreover, Nearby Share is described as requiring use of a "Wi-Fi network" instead of a separate network free Wi-Fi connection (EX2050, 2). Nor is there evidence Samsung's Quick Share either embodied the claims or performed in the same way as AirDrop. Thus, the exhibits do not suggest that these other technologies were copies of AirDrop or the claims, even if they performed a similar basic function of sharing files.

Patent Owner's "long-felt need" arguments (Paper 22, 40-48) also fail, for at least three reasons. *First*, rather than attempt to show a long-felt need in the *prior art*, as the law requires, Patent Owner turns the analysis on its head and argues an alleged need *created by AirDrop after the alleged priority date*. *E.g.*, *id.*, 42 (alleging "industry need created by AirDrop"); *id.*, 48 (arguing AirDrop "created an unresolved need in the rest of the industry"). A supposed need arising only after the issuance of a patent is not a secondary consideration, as there must be "[e]vidence that an invention satisfied a long-felt and unmet need that *existed on the patent's filing date*." *Perfect Web*, 587 F.3d at 1332 (emphasis added).

Second, the exhibits suggest that any "need" or desire on the part of others

vis-à-vis AirDrop was driven by interoperability / ecosystem issues, not the technology of the ’054 claims, as just explained with respect to copying.

Third, Patent Owner has not otherwise shown a long-felt need in the prior art, much less one that was satisfied by the claimed technology. In a separate later section (Paper 22, 49-51), Patent Owner appears to argue that the supposed long-felt need was for the entire claimed functionality. *Id.*, 49 (“[N]o one satisfied the long felt but unresolved need for the patented inventions claimed in the ’054 Patent until Apple.”). But Patent Owner has not shown such a need. Even if AirDrop embodied the claims (it does not), and even if Patent Owner’s exhibits were entitled to weight (they are not), those exhibits do not show that there were any particular drawbacks known in the prior art, much less that any “drawbacks constituted a long-felt, unmet need alleviated by the patent.” *Perfect Web*, 587 F.3d at 1332. Patent Owner “provided no evidence to explain how long [any] need was felt, or when [any] problem first arose” or that the ’054 patent “met any such ‘need.’” *Id.* at 1332-33.

Patent Owner suggests in an earlier section that AirDrop filled a need for speed and convenience that was not satisfied by a file sharing service called “Bump,” which required tapping two phones together. *See* Paper 22, 39. Yet, Patent Owner fails to tie speed and convenience to any unique characteristic of claims 1 or 23. *See Sjolund v. Musland*, 847 F.2d 1573, 1582 (Fed. Cir. 1988) (evidence relating to a

long-felt need for features that are "not part of [the] *claimed* invention . . . are irrelevant").

To the extent AirDrop met (or "created") some "need," the exhibits suggest that the need was for an integrated widespread ecosystem that allowed for a native, pre-loaded sharing feature that seamlessly operated across many different types of devices. That has nothing to do with the process recited in the challenged claims.

E. The Prior Art Included Bluetooth For Detection And Wi-Fi For Transfer, Which Thus Cannot Support Secondary Considerations

Patent Owner repeatedly suggests that the claims' differentiating feature is "Bluetooth detection of nearby devices followed by a Wi-Fi transfer of media between nearby devices." Paper 22, 1-2; *see also id.*, 39; *id.*, 45; *id.*, 47; *id.*, 48 (Section III.A.4 header). But Patent Owner has not even attempted to rebut the Petition's showing that this feature was well known in the prior art. Petition, 4-5; *id.*, 14 (this was "information within a POSITA's knowledge"); *see also* EX1005, [0017] (discussing "switch" to high speed protocol and "direct communications path" between devices); EX1006, 3:26-4:26 (describing example of using Bluetooth to detect and Wi-Fi to transfer, where a "PDA recognizes the laptop" using Bluetooth and then "send[s] the file to the laptop across a Wi-Fi connection," e.g., an "ad hoc" Wi-Fi connection); *id.*, 13:21-33 (identifying "direct communication between devices (e.g., in an ad hoc network)" as a communication mode); *id.*, 9:17-10:20 &

12:11-13:33; EX1010, [0024] ("ad hoc topology"); EX1013, [0051] ("The second connection may be a WiFi connection or other type of peer to peer connection.").

Thus, even setting aside that Patent Owner has not shown that AirDrop uses Bluetooth detection and Wi-Fi data transfer *or* that this feature drives any supposed secondary considerations, this feature cannot support any secondary considerations because it was known in the art. *Novartis AG v. Torrent Pharms. Ltd.*, 853 F.3d 1316, 1330-1331 (Fed. Cir. 2017) (affirming PTAB finding of no nexus for claim feature that was described in prior art publications); *ABT Sys., LLC v. Emerson Elec. Co.*, 797 F.3d 1350, 1361-62 (applying same principle in finding no commercial success or long-felt need).

As Patent Owner recognizes, secondary considerations "'guard as a check against hindsight bias'" and "avoid having a fact finder 'develop a hunch that the claimed invention was obvious, and then construct a selective version of the facts that confirms that hunch.'" Paper 22, 7 (citations omitted). Here, however, no such concerns exist. Switching from Bluetooth to Wi-Fi had been recognized in the industry as "the wireless technology equivalent of 'low hanging fruit.'" EX1077, 1 ("[D]evice users can expect to move their entertainment data between their own devices and the trusted devices of friends, without the need for cables and wires.") (cited by Petition, 4). And pre-transfer request/acceptance messages "were commonly utilized in many file transfer protocols," including Bluetooth and Wi-Fi.

Petition, 7-9, 25. Patent Owner leaves these facts entirely unrebutted, confirming that the alleged secondary considerations are entitled little to no weight.

IV. CONCLUSION

None of Patent Owner's secondary considerations arguments overcome the Petition's strong showing of obviousness. Patent Owner has not established a presumption of nexus, and the exhibits show that any secondary considerations were driven by other extraneous factors such as Apple's market share and ecosystem, and by unclaimed features relating to privacy and security. While Patent Owner touts the claimed detecting over Bluetooth and transferring over Wi-Fi, that feature was well known in the prior art and thus cannot support any secondary considerations of non-obviousness. Accordingly, the Board should find each challenged claim unpatentable as obvious.

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION PURSUANT TO 37 C.F.R. § 42.24

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CERTIFICATE OF SERVICE
IN COMPLIANCE WITH 37 C.F.R. § 42.6 (E)(4)

The undersigned certifies that on December 20, 2024, a complete copy of **PETITIONER'S REPLY TO THE PATENT OWNER RESPONSE** was served on counsel for the Patent Owner via electronic mail as follows:

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