

Petitioner's Preliminary Reply to Patent Owner's Preliminary Response
IPR2024-00534 (U.S. Patent No. 9,138,862)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG ELECTRONICS AMERICA, INC.,
SAMSUNG SEMICONDUCTOR, INC., and
SAMSUNG AUSTIN SEMICONDUCTOR, LLC
Petitioner

v.

CHIEN-MIN SUNG
Patent Owner

Case IPR2024-00534
U.S. PATENT NO. 9,138,862

**PETITIONER'S PRELIMINARY REPLY TO PATENT OWNER'S
PRELIMINARY RESPONSE**

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IPR2024-00534 (U.S. Patent No. 9,138,862)

PETITIONER'S EXHIBIT LIST

Petitioner Exhibit No.	DESCRIPTION
1001	U.S. Patent No. 9,138,862 ("’862 Patent")
1002	Declaration of Dr. Stanley Shanfield
1003	File History of the ’862 Patent
1004	U.S. Patent Application Publication No. 2007/0060026 ("Sung’026")
1005	"The Organic Diamond Disk (ODD) for dressing of Polishing Pads of Chemical Mechanical Planarization," International Conference on Planarization / CMP Technology, 25-27 October 2007 ("SungICPT")
1006	U.S. Patent Application Publication No. 2008/0087644 ("Nishioka")
1007	International Patent Application Publication No. WO 2008/049019 ("Lin")
1008	U.S. Patent Application Publication No. 2009/0001581 ("Kim")
1009	U.S. Patent Application Publication No. 2009/0117692 ("Koyama")
1010	U.S. Patent No. 5,036,015
1011	Ishizuka et al. "PCD Dressers for Chemical Mechanical Planarization with Uniform Polishing" Proceedings of International Conference on Leading Edge Manufacturing in 21 st Century: LEM21, 2007, Volume 2007.4
1012	U.S. Patent Application Publication No. 2008/0292869 (Sung’869)
1013	Fenna, Donald. "Hardness Numbers," <i>A Dictionary of Weights, Measures, and Units</i> , 1st ed., Oxford University Press, 2004.
1014	Tsai et al., "Effect of CMP conditioner diamond shape on pad topography and oxide wafer performances," <i>Int. J. Adv. Manuf. Technology</i> , 55: 253-262 (2011)
1015	Pysher et al. "Design, Characteristics and Performance of Diamond Pad Conditioners", Materials Research Society Symposium Procedures, Vol. 1249, 2010 ("Pysher")
1016	<i>Design, Characteristics and Performance of Diamond Pad Conditioners</i> . SpringerLink. https://link.springer.com/article/10.1557/PROC-1249-E02-04
1017	Exhibit 4 of Complaint in <i>Sung v. Samsung Electronics Co., Ltd. et al</i> , 4-23-cv-00752
1018	Scheduling Order in <i>Sung v. Samsung Electronics Co., Ltd. et al</i> , 4-

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Petitioner Exhibit No.	DESCRIPTION
	23-cv-00752
1019	Electronic Copy of SungICPT obtained from IEEE, the publisher
1020	Records for <i>Proceedings ICPT 2007</i> available at https://search.worldcat.org/title/198200505 from WorldCat; at https://d-nb.info/985874066 (bibliographic record and MARC21-XML record) from the online catalog of the German National Library; and from OCLC FirstSearch (subscription required for access)
1021	TIB records for <i>Proceedings ICPT 2007</i> , available at https://search.worldcat.org/title/552588043 from WorldCat; at https://opac.tib.eu/DB=1/LNG=EN/CLK?IKT=12&TRM=585918058 from the classic catalog of TIB; at https://www.tib.eu/en/search/id/TIBKAT:585918058/Proceedings-ICPT-International-Conference-on-Planarization?cHash=aa6c9dc952dc92d0d78d53ec988dc7a5 from the TIB portal; and from OCLC FirstSearch (subscription required for access)
1022	Program and Invitation, ICPT International Conference on Planarization/CMP Technology, October 25 – 27, 2007, Hilton Hotel, Dresden, Germany, available at https://www.yumpu.com/en/document/read/19588721/program-and-invitation-eusar
1023	ICPT 2007 Conference Registration website, archived by Internet Archive on October 13, 2007, available at https://web.archive.org/web/20071013155043/http://icpt2007.com/Conferences_en/ICPT+2007/Conference+Registration/ from Internet Archive
1024	ICPT 2007 Program order form webpage, archive by Internet Archive on November 3, 2007, available at https://web.archive.org/web/20071103025949/http://icpt2007.com/Conferences_en/ICPT+2007/Conference+Program/Program+Order+Form.htm
1025	Online catalog of the German National Library archived on January 1, 2011 by Internet Archive, available at https://web.archive.org/web/20110101165839/www.d-nb.de/ from Internet Archive
1026	GetInfo Portal of the German National Library of Science and

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	Technology (TIB), archived on October 22, 2007 by the Internet Archive, available at https://web.archive.org/web/20071022114354/http://www.tib-hannover.de/en/getinfo-portal/ from Internet Archive
1027	Declaration of Dr. Ingrid Hsieh-Yee
1028	<i>Chien-Min Sung v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 4:23-cv-00752 (E.D. Tex.), 82 (Order to Stay Pending Motion for Inter-District Transfer)
1029	<i>Chien-Min Sung v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 4:23-cv-00752 (E.D. Tex.), 37 (February 14, 2024 Scheduling Order)
1030	<i>Chien-Min Sung v. Texas Instruments Inc.</i> , Case No. EDTX-4-23-cv-00753 (E.D. Tex.), 26 (TI's Motion for Summary Judgment of Invalidity)
1031	<i>Chien-Min Sung v. Texas Instruments Inc.</i> , Case No. EDTX-4-23-cv-00753 (E.D. Tex.), 68 (Order To Stay the Case Pending Resolution of TI's Motion for Summary Judgment).
1032	<i>Chien-Min Sung v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 4:23-cv-00752 (E.D. Tex.), 56 (Motion to Stay Pending Resolution of Texas Instruments Incorporated's Motion for Summary Judgment)
1033	<i>Chien-Min Sung v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 4:23-cv-00752 (E.D. Tex.), 72 (Plaintiff's Sur-reply)
1034	<i>Chien-Min Sung v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 4:23-cv-00752 (E.D. Tex.), 43 (Notice Of Intent To File A Motion To Stay Pending Inter Partes Review)
1035	<i>Chien-Min Sung v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 4:23-cv-00752 (E.D. Tex.), 56 (Motion To Stay Pending Resolution of TI MSJ)
1036	<i>Chien-Min Sung v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 4:23-cv-00752 (E.D. Tex.), 62 (Plaintiff's Opposition to MTS Pending Resolution of TI MSJ)
1037	<i>Chien-Min Sung v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 4:23-cv-00752 (E.D. Tex.), 67 (Defendant's Reply)
1038	<i>Chien-Min Sung v. Samsung Electronics Co. Ltd., et al.</i> , Case No. 4:23-cv-00752 (E.D. Tex.), 72 (Plaintiff's Sur-Reply)
1039	<i>In re: Chien-Min Sung Subpoena Upon 3M Company</i> , Case No.

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	0:2023mc00104 (D. Minnesota), 1 (3M's Nov. 16, 2023 Motion To Quash Subpoena In The District of Minnesota)
1040	<i>In re: Chien-Min Sung Subpoena Upon 3M Company</i> , Case No. 0:2023mc00104 (D. Minnesota), 15 (Dr. Sung's Nov. 22, 2023 Cross-Motion To Compel And Motion For Sanctions)
1041	<i>In re: Chien-Min Sung v. 3M Company</i> , Case No. 6:23-mc-00002 (N.D. Tex.), 1 (Dr. Sung's Nov. 27, 2023 Motion To Compel In The Northern District of Texas)
1042	<i>In re: Chien-Min Sung Subpoena Upon 3M Company</i> , Case No. 0:2023mc00104 (D. Minnesota), 38 (Court Entry Showing A Discovery Hearing Before The Court In The District Of Minnesota)
1043	Judge Jordan's Time To Order Motion of Summary Judgement Statistics

On July 25, 2024, the Board authorized Petitioner Samsung to file a five-page Preliminary Reply to address: (1) the likelihood of a stay being entered by the District Court (“Samsung Litigation”); (2) expenses incurred by the parties; and (3) Petitioner’s submission of a *Sotera* stipulation. *See* Paper 11.

1. The Samsung Litigation Is Now Stayed Pending Motion to Transfer

On July 26, 2024, the District Court stayed the Samsung Litigation *sua sponte* “pending the Court’s resolution of Defendants’ Motion for Inter-District Transfer to the Northern District of California.” EX1028. With the stay already granted (Factor 1) and no trial date in place (Factor 2) (*see* EX1028), the facts strongly weigh against discretionary denial under *Fintiv* Factors 1 and 2. *Samsung Elecs. Co., et al. v. Jawbone Innovations, LLC*, IPR2022-00865, Paper 15 at 12-14 (finding that vacatur of the trial schedule and the median time to trial to not significantly precede the final written decision to weigh against discretionary denial).

Even if the Court resolves the pending transfer motion quickly, the likelihood of the Court continuing the current stay (Factor 1) and not setting a new trial date (Factor 2) is high because the parties have agreed that a stay would be proper until resolution of a motion pending in a different case—namely, Texas Instruments, Inc. (“TI”)’s Motion for Summary Judgment (“MSJ”) of Invalidity. Specifically, concurrently with the Samsung Litigation, Patent Owner brought a separate action against TI asserting the same set of patents. *Sung v. Texas Instruments Inc.*, Case

No. 4:23-cv-00523 ("TI Litigation"). On March 13, 2024, TI filed a MSJ of Invalidity (EX1030), and on May 14, 2024, the District Court stayed the TI Litigation pending resolution of TI's MSJ (EX1031). Subsequently on May 21, 2024, Samsung filed a Motion to Stay the Samsung Litigation Pending Resolution of TI's MSJ (EX1032). During the briefing of Samsung's stay motion, Patent Owner acknowledged that the stay would be proper, but argued that such stay should be entered at the end of Markman briefing (completed on July 17, 2024). EX1033, 8 (Dr. Sung "***agreeing to stay these proceedings at the end of Markman briefing.***").¹

Now that the Markman briefing has concluded (EX1029), even if the pending transfer motion is resolved quickly, the current stay will likely remain pending the resolution of TI's MSJ, which weighs against discretionary denial under *Fintiv* Factor 1. Moreover, given the historical average time it takes for Judge Jordan to resolve a summary judgment motion, even if the Patent Owner were to prevail in TI's MSJ, any new trial date will almost certainly be after the Board's final written decision. EX1043 (showing that Judge Jordan takes, on average, 266 days to resolve a MSJ, and in one case, took as long as 550 days). Thus, discretionary denial under *Fintiv* Factor 2 is also disfavored.

¹ Petitioner also submits herewith the completed briefs, which include Samsung's Opening and Reply and Dr. Sung's Opposition and Sur-Reply. EX1035-EX1038.

In addition, the likelihood of the Court extending the current stay until the resolution of the IPRs upon their institution is very high, disfavoring discretionary denial under both Factors 1 and 2 again. Specifically, Samsung has already notified the Court that Samsung intends to file a Motion to Stay upon institution of the IPRs. EX1034. Since the Samsung Litigation is already stayed and will likely remain stayed at least until the institution decision, there is a high likelihood that the Court will extend the stay until resolution of the IPRs if IPRs are instituted. Indeed, both the Eastern District of Texas—where the Samsung Litigation is currently pending—and the Northern District of California—to which the Samsung Litigation may be transferred—have routinely granted stays based on already instituted IPRs *in cases that weren't already stayed*. See, e.g., *Commc'n Techs. v. Samsung Elecs. Am.*, No. 2:21-CV-00444-JRG, 2023 WL 1478447, at *5 (E.D. Tex. Feb. 2, 2023) (“[G]iven that *inter partes* review has been instituted on all claims...and on multiple grounds, the likelihood of simplification of issues is material. This factor weighs in favor of a stay under these facts.”); *Synthego Corp. v. Agilent Techs.*, No. 5:21-CV-07801-EJD, 2022 WL 2704121, at *2 (N.D. Cal. July 12, 2022). Because the Court will likely stay the case until the resolution of IPRs upon institution, discretionary denial is again disfavored under both *Fintiv* Factors 1 and 2.

In short, (1) the current stay that is in place pending resolution of the transfer motion, (2) a stay pending resolution of TI's MSJ—which the parties have agreed is

appropriate, and (3) the high likelihood of a stay pending resolution of the instant IPR upon institution all weigh heavily against exercising the Board's discretion to deny institution under *Fintiv* Factors 1 and 2.

2. Patent Owner's Discovery Disputes Were Significant In The TI Litigation—Not The Samsung Litigation

Patent Owner asserts that the “parties are now entrenched in extensive discovery, incurring considerable expense.” POPR at 10. The Patent Owner's point is now moot; parties are no longer “entrenched” in any discovery due to the stay.

But at any rate, even before the entry of the stay, Patent Owner's purported “extensive third-party discovery” (POPR at 8) predominantly occurred in the TI Litigation. For example, Patent Owner, TI, and a third-party 3M were involved in significant discovery—including a motion to quash a subpoena, a motion to compel pursuant to a subpoena, a motion for sanctions, and a discovery hearing—in connection with 3M's prior art pad conditioners. EX1039 (3M's Nov. 16, 2023 motion to quash subpoena in the District of Minnesota); EX1040 (Sung's Nov 22, 2023 cross-motion to compel and motion for sanctions); EX1041 (Sung's Nov, 27, 2023 motion to compel in the [Northern District of Texas]); EX1042 (court entry showing a discovery hearing before the court in the District of Minnesota). In contrast, in the Samsung Litigation, no motions to compel related to third party subpoenas have been filed and no hearings other than the initial scheduling

conference have been held. Patent Owner's purportedly significant expense in a different litigation involving a different party has limited bearing, if any, in the instant IPR.

To the extent Patent Owner incurred discovery expenses in the Samsung Litigation, *Fintiv* Factor 3 still disfavors discretionary denial because "the District Court has not issued any substantive orders, a Markman hearing has not yet been conducted, and expert reports have not been exchanged." *Samsung Elecs Co., et al. v. Fendgo LLC*, IPR2024-00113, Paper 11 at 10 (P.T.A.B. May 20, 2024).

3. *Fintiv* Factors Favor Even Without A *Sotera* Stipulation

Given the current stay in the Samsung Litigation, Petitioner submits that *Fintiv* Factors disfavor discretionary denial even without a *Sotera* stipulation. Hence, Petitioner respectfully declines submission of a *Sotera* stipulation but will continue to be bound by the *Sand Revolution* stipulation entered at the time of filing the Petition.

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Respectfully submitted,

Dated: July 31, 2024
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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that a complete copy of the foregoing was caused to be served on counsel of record for the Patent Owner by filing this document through PTACTS and by sending this document via electronic mail to the following addresses:

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