

Filed on behalf of:

Patent Owner

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Paper No. _____

Date: April 17, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
Petitioner,

v.

SIONYX, LLC,
Patent Owner.

Case IPR2025-00161
Patent 11,721,714 B2

PATENT OWNER'S PRELIMINARY SUR-REPLY

LIST OF PATENT OWNER'S EXHIBITS

PO Exhibit Number	Description
	Filed and Served on February 13, 2025 with Patent Owner's Motion for <i>Pro Hac Vice</i> Admission of Andrew P. Zappia Under 37 C.F.R. § 42.10
2001	Declaration of Andrew P. Zappia in Support of Patent Owner's Motion for <i>Pro Hac Vice</i> Admission
	Filed and Served on March 12, 2025 with Patent Owner's Preliminary Response
2002	Order No. 26: Amending The Procedural Schedule dated October 9, 2024 in <i>In the Matter of CERTAIN SENSORS WITH PIXELS AND PRODUCTS CONTAINING THE SAME</i> , Inv. No. 337-TA-1403 (ITC) ("ITC Scheduling Order")
2003	Excerpt of Respondents Samsung Electronics Co., Ltd.; Samsung Electronics America, Inc.; and Samsung Semiconductor, Inc.'s Invalidity Contentions in <i>In the Matter of CERTAIN SENSORS WITH PIXELS AND PRODUCTS CONTAINING THE SAME</i> , Inv. No. 337-TA-1403 (ITC) ("Excerpt of ITC Invalidity Contentions")
2004	Excerpt of Opening Expert Report of Dr. Dean Neikirk Regarding U.S. Patent Nos. 11,721,714; 9,064,764; 9,905,599; and 10,224,359 dated January 31, 2025 in <i>In the Matter of CERTAIN SENSORS WITH PIXELS AND PRODUCTS CONTAINING THE SAME</i> , Inv. No. 337-TA-1403 (ITC) ("Excerpt of Expert Report of Neikirk")
2005	Order No. 36: Construing Certain Claim Terms dated January 15, 2025 in <i>In the Matter of CERTAIN SENSORS WITH PIXELS AND PRODUCTS CONTAINING THE SAME</i> , Inv. No. 337-TA-1403 (ITC) ("ITC Markman Order")

PO Exhibit Number	Description
2006	<p>“Understanding Wavelengths in Fiber Optics” found at https://www.thefoa.org/tech/wavelength.htm, last accessed March 12, 2025</p> <p>(“FOA Reference Guide”)</p>
	<p>Filed and Served on April 17, 2025 with Patent Owner's Preliminary Sur-reply</p>
2007	<p>Witness Statement of Dr. Dean Neikirk dated March 19, 2025 in <i>In the Matter of CERTAIN SENSORS WITH PIXELS AND PRODUCTS CONTAINING THE SAME</i>, Inv. No. 337-TA-1403 (ITC) (REDACTED Version)</p> <p>(“Neikirk Witness Statement”)</p>
2008	<p>Order No. 43: Initial Determination Granting Complainant Sionyx LLC's Unopposed Motion to Terminate in Part as to Certain Claims of the Asserted Patents dated February 24, 2025 in <i>In the Matter of CERTAIN SENSORS WITH PIXELS AND PRODUCTS CONTAINING THE SAME</i>, Inv. No. 337-TA-1403 (ITC)</p> <p>(“ITC Claim Termination”)</p>
2009	<p>Declaration of Dr. Adam Fontecchio in Response to Declaration of Dr. Daniel Foty Concerning Claim Construction for Certain Terms in U.S. Patent Nos. 9,064,764, 9,905,599, 10,224,359, 11,069,737, and 11,721,714 dated September 20, 2024 in <i>In the Matter of CERTAIN SENSORS WITH PIXELS AND PRODUCTS CONTAINING THE SAME</i>, Inv. No. 337-TA-1403 (ITC)</p> <p>(“Fontecchio Claim Construction Decl.”)</p>

In its Preliminary Reply (Paper 12), Petitioner makes clear that it intends to pursue the same invalidity theories in this proceeding and at the ITC, where a hearing including validity issues on the '714 Patent will commence May 5, 2025, and where a final determination will issue many months before any final written decision here.¹ This is evident from the Reply and Petitioner's decision to offer no *Sotera* stipulation in this proceeding. Despite the February 28, 2025 rescission of the USPTO's former guidance on discretionary denial, Petitioner pretends that it is still in place, by arguing almost entirely purported compelling merits to justify institution. Petitioner's merits arguments do not support institution (as addressed as part of the *Fintiv* discussion below), just as its *Fintiv* arguments fail.

Although barely mentioned by Petitioner, the *Fintiv* factors govern here, and each supports denial of institution. Factor 1 (Stay): Petitioner does not contest that ITC investigations are a basis for discretionary denial and that no stay has issued or will issue in that investigation, which is going to hearing on the '714 Patent on May 5, 2025. Petitioner claims this factor is neutral because a District Court proceeding is stayed, but this is misdirection, because the argument for discretionary denial is based on the ITC investigation. Factor 2 (Proximity of Trial Date): Petitioner

¹ This sur reply uses the defined terms from Patent Owner's Preliminary Response (Paper 9) ("POPR").

cannot and does not contest that the proximity of a trial date to the Board's projected statutory deadline must overwhelmingly support discretionary denial, in view of the May 5 hearing at the ITC.

Factor 3 (Investment in Parallel Proceeding): Petitioner tries to skirt this factor, but a massive investment has been made by the parties and the ITC to prepare for a hearing only 18 days away, which hearing includes the '714 Patent. Importantly, Petitioner does not contest that it has presented the same invalidity theories to the ITC and here. This is confirmed by Petitioner's opening witness statement in the ITC investigation. EX2007 (Neikirk Witness Statement), pp. 41-137. Further, this massive investment extends to all the claims subject to this Petition, because all claims in the '714 Patent were at issue in the ITC until February 24, 2025, when Patent Owner first narrowed claims for trial (which happens in virtually every trial scenario). EX2008 (ITC Claim Termination), 2.

Factor 4 (Overlapping Issues): Petitioner is ensuring overlap in the invalidity theories presented on the '714 Patent by its refusal to offer a *Sotera* stipulation. Again, this complete overlap is confirmed by Petitioner's own witness statement, which is its opening evidence in the ITC investigation. EX2007 (Neikirk Witness Statement), pp. 41-137. Petitioner's only argument on this factor is that not all claims challenged here are going to the hearing. However, as noted above, all Challenged Claims were at issue in the ITC when the Petition was filed and indeed

were at issue until February 24, 2025. EX2008 (ITC Claim Termination), 2. As *Fintiv* confirms and mandates: “a parallel proceeding in an advanced state implicates considerations of efficiency and fairness, which can serve as an independent reason to apply discretion to deny institution.” *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 11 (PTAB May 13, 2020) (Informative, Designated July 13, 2020). Under this directive, Petitioner cannot credibly claim that a recent narrowing of the claims for hearing turns this factor in its favor. Factor 5 (Overlapping Parties): Petitioner does not contest that there is complete identity in parties.

In view of the above, five of the six *Fintiv* factors strongly favor discretionary denial, and Petitioner makes little effort to argue otherwise. Instead, Petitioner focuses on merits arguments, apparently believing that the compelling merits standard from the now rescinded 2022 Memorandum still applies. It does not. The USPTO could not have been clearer on this point: “To the extent any other PTAB or Director Review decisions rely on the [June 21, 2022] Memorandum, the portions of those decisions relying on the [June 21, 2022] Memorandum shall not be binding or persuasive on the PTAB.” February 28, 2025 Guidance. As is clear, compelling merits cannot be a standalone basis to grant institution in the context of *Fintiv*. Further Petitioner admits that the discretionary denial assessment requires a “‘balanced assessment,’” quoting *Fintiv*. Preliminary Reply, 4. When at least five

of six factors weigh in favor of discretionary denial, that “balanced assessment” cannot support institution.

Nevertheless, Petitioner's assertions on compelling merits fail. As the POPR notes, Petitioner has not demonstrated that Hwang discloses “at least one light sensitive pixel having ... a peripheral sidewall disposed into at least a portion of the pixel.” POPR, 10-15; EX1001 ('714 Patent), Claim 1. Petitioner's invalidity theory cites Hwang's “pixel semiconductor pattern 110a” to meet this claim element; however, Petitioner has not demonstrated that the “pixel semiconductor pattern 110a” in Hwang is actually the same as the claimed “pixel.” POPR, 10-15. Petitioner has consistently agreed that a pixel converts light into an electrical signal. EX2005 (ITC Markman Order), 22. However, Petitioner fails to submit evidence that Hwang's “pixel semiconductor pattern 110a” is the component that does convert light into an electrical signal. Dr. Lebby's evidence attempts to sidestep this apparent failure of proof by suggesting that Hwang's own description be ignored. EX1003 (Lebby Decl.), ¶¶76-80.

On Yamada, Petitioner has not demonstrated that it discloses “at least one light sensitive pixel” because Yamada does not disclose an image sensor. Samsung does not dispute that a pixel is “the basic light-detecting unit *of an image sensor*,” and challenge only which structures should be included in a pixel. EX2009 (Fontecchio Claim Construction Decl.), ¶33. The dispute over which structures

should be included does not implicate whether a pixel is part of an image sensor, an issue which both parties (and their experts) appear to agree. *Id.* But Yamada does not disclose an image sensor, and Dr. Lebby does not provide any evidence to the contrary. In fact, Dr. Lebby provides a single conclusory statement (“Yamada is directed to an image sensor”) without any support from Yamada’s specification. EX1003 (Lebby Decl.), ¶199.²

Date: April 17, 2025

Respectfully submitted,
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Reg. No. 51,998, *Counsel for Patent Owner*

² Patent Owner apologizes for the error in citation on page 15 of the POPR regarding “pixel”, but it is not of substantive import. The ITC Markman Order states: “Samsung further notes that “[b]oth parties’ experts agree that the ‘pixel’ converts light into electrical signals and that the photodiode is the structure that performs this conversion.”” EX2005 (ITC Markman Order), 22 (internal citation omitted). Dr. Fontecchio’s declaration states: “Dr. Foty explains that ‘pixels are used to detect light’ and that ‘pixels provide the basic light detecting unit of an image sensor,’ Foty Decl. ¶28 – consistent with the ‘capable of detecting light’ language found in Samsung’s proposed construction. Therefore, it appears that the only dispute between the parties relates to *the structures* that should be considered to be a part of the pixel.” EX2009 (Fontecchio Claim Construction Decl.), ¶33.

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), this is to certify that on this 17th day of April, 2025, I caused to be served a true and correct copy of the foregoing **PATENT OWNER'S PRELIMINARY SUR-REPLY (with EX2007-2009)** by e-mail on the following (as agreed in the Service Information section of the Petition):

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