

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**SAMSUNG ELECTRONICS CO., LTD. AND
SAMSUNG ELECTORNICS AMERICA, INC.**

Petitioners,

v.

MAXELL, LTD.,
Patent Owner

IPR2025-01315

U.S. Patent No. 8,471,950

**PATENT OWNER PRELIMINARY RESPONSE TO PETITION FOR
INTER PARTES REVIEW OF U.S. PATENT NO. 8,471,950**

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
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 Other Authorities	
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PATENT OWNER’S EXHIBIT LIST

Description	Exhibit #
Notice Letter to Samsung (July 7, 2021)	2001
Follow-up Notice Letter to Samsung (December 29, 2021)	2002
Docket Navigator Time to Trial Statistics for the Eastern District of Texas	2003
Docket Control Order, <i>Maxell, Ltd. v. Samsung Elecs. Co., Ltd.</i> , No. 5:25-cv-00052-RWS (E.D. Tex.)	2004
Jury Trial Transcript, Vol. 4, <i>Maxell, Ltd. v. Samsung Elecs. Co., Ltd.</i> , No. 5:23-cv-00092-RWS (E.D. Tex.)	2005
Complaint, <i>Maxell, Ltd. v. Samsung Elecs. Co., Ltd.</i> , No. 5:25-cv-00052-RWS (E.D. Tex.)	2006
Follow-up Notice Letter to Samsung (April 21, 2025)	2007
Law360 Article, “Maxell Settles Patent Suit Against Apple Over Mobile Tech”	2008
Law360 Article, “Maxell Scores \$43M EDTX Jury Win In ZTE Patent Trial”	2009
Law360 Article, “Maxell, Huawei Reach Terms To End Smartphone Patent Suit”	2010
Hudson Institute Article, “Google’s Loss to Sonos Settles It, Big Tech Has an IP Piracy Problem”	2011
PatentRenewal.com Article, “which-companies-hold-the-most-patents-in-the-world”	2012
Motion for Partial Summary Judgment of Validity Based on Sotera Stipulations, <i>Maxell, Ltd. v. Samsung Elecs. Co., Ltd.</i> , No. 5:23-cv-00092-RWS (E.D. Tex.)	2013
Follow-up Notice Letter to Samsung (November 28, 2024)	2014

LISTING OF CHALLENGED CLAIMS¹

Claim	Claim Text
[1pre]	A signal processor comprising:
[1a]	a feature detection unit which detects a position where features of each pixel of an input picture signal have changed;
[1b]	a region creation unit which creates a region by removing pixels with the features from an evaluated value extraction region;
[1c]	an evaluated value extraction unit which extracts an evaluated value in accordance with the evaluated value extraction region;
[1d]	a processing unit which applies predetermined processing to the picture signal; and
[1e]	a control unit which controls the processing unit in accordance with the evaluated value having been extracted by the evaluated value extraction unit;
[1f]	wherein the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.
[2pre]	A signal processor according to claim 1, wherein

¹ For convenience purposes only, Patent Owner adopts for this Preliminary Response the numbering of claim elements advanced by Petitioners in the Petition (Paper 1). Patent Owner does not concede the appropriateness of such grouping and numbering of claim elements.

[2a]	the feature detection unit includes: a hold unit which holds position information of the detected pixels; and
[2b]	the region creation unit which creates a region by excluding the held positions from an evaluated value extraction region.
[3pre]	A signal processor according to claim 2, wherein:
[3a]	the processing unit includes a focus lens, and a drive unit for driving the focus lens;
[3b]	a photoelectric conversion unit for performing photoelectric conversion is disposed between the focus lens and the extraction unit; and
[3c]	the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.
[4pre]	A signal processor according to claim 2, wherein:
[4a]	the processing unit is a signal processing unit for adjusting white balance of an input picture signal; and
[4b]	the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.
[5pre]	A signal processor according to claim 2, wherein:
[5a]	the region creation unit includes a region segmentation unit for segmenting an effective region in advance, and an overlap detection unit which detects overlap of position information output from the hold unit with blocks segmented by the region

	segmentation unit; and
[5b]	the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.
[6pre]	A signal processor according to claim 2,
[6a]	wherein the region creation unit includes a unit which keeps the total area of the evaluated value extraction region constant by excluding unnecessary portions from the evaluated value extraction region.
[7pre]	A signal according to claim 2, wherein:
[7a]	the processing unit is a light intensity adjustment unit for controlling exposure;
[7b]	a lens and a photoelectric conversion unit for performing photoelectric conversion are disposed between the light intensity adjustment unit and the extraction unit; and
[7c]	the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.
[8pre]	A signal processor according to claim 7, wherein:
[8a]	the region creation unit includes a region segmentation unit for segmenting an effective region in advance, and an overlap detection unit which detects overlap of position information output from the hold unit with blocks segmented by the region segmentation unit; and

[8b]	the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.
[9pre]	A signal processor according to claim 7,
[9a]	wherein the region creation unit includes a unit which keeps the total area of the evaluated value extraction region constant by excluding unnecessary portions from the evaluated value extraction region.
[10pre]	A signal processor according to claim 1, wherein:
[10a]	the processing unit is a light intensity adjustment unit for controlling exposure;
[10b]	a lens and a photoelectric conversion unit for performing photoelectric conversion are disposed between the light intensity adjustment unit and the extraction unit; and
[10c]	the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.
[11pre]	A signal processor according to claim 1,
[11a]	wherein the region creation unit includes a unit which keeps the total area of the evaluated value extraction region constant by excluding unnecessary portions from the evaluated value extraction region.
[12pre]	A signal processor according to claim 1, wherein:
[12a]	the processing unit includes a focus lens, and a drive unit for

	driving the focus lens;
[12b]	a photoelectric conversion unit for performing photoelectric conversion is disposed between the focus lens and the extraction unit; and
[12c]	the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.
[13pre]	A signal processor according to claim 12,
[13a]	wherein the region creation unit includes a unit which keeps the total area of the evaluated value extraction region constant by excluding unnecessary portions from the evaluated value extraction region.
[14pre]	A signal processor according to claim 1, wherein:
[14a]	the processing unit is a signal processing unit for adjusting white balance of an input picture signal; and
[14b]	the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.
[15pre]	A signal processor according to claim 14,
[15a]	wherein the region creation unit includes a unit which keeps the total area of the evaluated value extraction region constant by excluding unnecessary portions from the evaluated value extraction region.

I. INTRODUCTION

Patent Owner Maxell, Ltd. (“Patent Owner”) respectfully requests that the Director deny institution of the Petition filed by Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (hereinafter “Petitioner” or “Samsung”) challenging the patentability of claims 1-15 (“challenged claims”) of U.S. Patent No. 8,471,950 (“the ’950 Patent”) (EX1001).

Petitioner has failed to demonstrate a reasonable likelihood of success on the grounds submitted in its Petition. None of the cited references, whether taken alone or in reasonable combination, disclose or render obvious the arrangement of each limitation in the challenged claims. For example, Tsujino, Iwasaki, and Shui, either individually or in any combination, fail to disclose or render obvious at least (i) “a feature detection unit which detects a position where features of each pixel of an input picture signal have changed,” (ii) “a region creation unit which creates a region by removing pixels with the features from an evaluated value extraction region,” and (iii) “wherein the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed,” as recited in independent claim 1.

Moreover, the Petition is filled with conclusory statements that fail to demonstrate a reasonable likelihood of success on any ground and are neither bolstered nor supported by Dr. Dan Schonfeld's declaration (EX1003), which simply parrots Petitioners' conclusions without additional analysis or evidence. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

For at least these reasons, Petitioner has failed to meet their burden of showing a reasonable likelihood of prevailing. Accordingly, the Director should deny Petitioners' request to institute *inter partes* review.

II. BACKGROUND

A. Overview of the '950 Patent

The '950 Patent, titled "*Signal Processor For Adjusting Image Quality Of An Input Picture Signal*," issued from U.S. Application No. 12/621,304, which was filed on November 18, 2009. *See* EX1001.

The claimed inventions relate to signal processor architecture for adjusting image quality in imaging devices, such as video and digital still cameras, by extracting reliable evaluated values for automatic control functions. EX1001 at Abstract and 1:8-10 and 47-49. Conventionally, the signal processor of, for example,

a camera, would either switch evaluation regions upon detecting high-luminance content or predefine multiple candidate regions and select among them. *Id.* at 1:20-31. For example, when multiple bright artifacts (*e.g.*, spotlights) are present within an image signal, repeated region switching may be required, and predefined regions may all be contaminated, making it impossible to find an optimal region. *Id.* at 1:27-39. This may result in misadjusted exposure (dark sinking of non-highlight areas), degraded autofocus accuracy (spurious high-frequency responses at non-focal positions), and white balance errors. *Id.*; *see also id.* at 5:30-41, 6:24-33, and 6:56-7:3. The inventors of the '950 Patent recognized the inefficiency and inaccuracies of these conventions approaches. *Id.* at 1:27-39 and 4:36-58.

The inventors solved these problems with the conventional art by detecting pixel-level feature change positions across an input picture signal and excluding them from image adjustment processing. *Id.* at 2:22-36. As an example, the region creation unit can construct an evaluation region by removing pixels (or blocks) flagged as having features distinct from their periphery, using differential thresholds in horizontal and vertical directions to find sharp changes. *Id.* at 3:60-4:23. The evaluated value extraction unit may then operate on the cleaned region, and a control unit may adjust the target processing (exposure via light intensity adjustment, focus

via lens drive, or color balance via gain control) based on these robust evaluated values. *Id.* at 4:24-40.

B. Prosecution History of the '950 Patent

U.S. Patent Application No. 12/621,304, which ultimately issued as the '950 Patent, was filed on November 18, 2009. The '950 Patent claims foreign priority to Japanese Patent Application No. 2008-303423, filed on November 28, 2008.

The '950 Patent is the result of a thorough examination where the Examiner considered prior art analogous to that in the Petition and found the invention patentable. *See* EX1002 at 7-15 and 42-53. During prosecution, the Examiner objected to the title of the application and rejected the claims as indefinite under 35 U.S.C. § 112(b) due to antecedent basis issues, as anticipated under 35 U.S.C. § 102(b) over U.S. Patent No. 5,978,027 ("Takeda"), and as obvious under 35 U.S.C. § 103(a) over Takeda alone and a combination of Takeda and additional references. *See id.* at 44-52.

In response, the Applicant amended the title to add more specificity. The Applicant amended the claims to correct to antecedent basis issues and reclarify the core invention:

1. (Currently Amended) A signal processor comprising:
~~an extraction a feature detection~~ unit which ~~extracts detects~~ a position where
features ~~and position~~ of each pixel of an input picture signal have changed; and outputs an
~~evaluated value corresponding to the extracted feature and position of the pixel;~~
a region creation unit which creates a region by removing pixels with the
features from an evaluated value extraction region;
an evaluated value extraction unit which extracts an evaluated value in
accordance with the evaluated value extraction region;
a processing unit which applies predetermined processing to the picture signal;
and
a control unit which controls the processing unit in accordance with the evaluated
value ~~output from having been extracted by~~ the elevated value extraction unit;
wherein the control unit controls the processing unit by using an evaluated value
of a region from which pixels having an extracted predetermined feature are removed.

EX1003 at 25.

The Applicant argued, *inter alia*, that Takeda “merely determines a focus state of an image” but fails to disclose the region creation unit, evaluated value extraction unit, and control unit, as claimed. See EX1003 at 31-32. The Examiner found these arguments persuasive. See *id.* at 11-15. For example, the Notice of Allowance pointed to the prior art failing to disclose or suggest “the active creation of a region from the entire image where pixels containing a certain feature are actively removed.” See *id.* at 14.

C. Summary of Petitioner's Proposed Grounds for Unpatentability

Petitioner alleges that claims 1–15 of the '950 Patent would have been obvious under pre-AIA 35 U.S.C. § 103(a) and raises three grounds of alleged unpatentability. See Pet. at 1-2. The alleged invalidity grounds are summarized as follows:

Ground	'950 Claims	Type of Challenge	References
1	1-15	§ 103	Tsujino in view of Iwasaki
2	1-15	§ 103	Tsujino in view of Shui and Iwasaki
3	1-15	§ 103	Shui in view of Iwasaki

D. Petitioner's Relied-Upon References

The three grounds relied upon by Petitioner are summarized as follows:

1. Overview of Tsujino (EX1005)

U.S. Patent No. 8,237,850 ("Tsujino"), issued on August 7, 2012, is generally directed to an electronic camera that "executes an AF process for adjusting a distance from the focus lens to the imaging surface to a distance corresponding to a focal point, based on the object scene image generated by the image sensor." EX1005 at Abstract. Tsujino discloses that the electronic camera has "a high-luminance excluding function for excluding from a target to be noticed of the AF process a

partial image having a luminance exceeding 'TH1' out of the object scene image generated by the image sensor." *Id.* at the Abstract and 12:41-51. The high-luminance excluding function "is turned on when capturing the object scene including the light source LS shown in FIG. 5, thereby making it possible to avoid a situation in which focusing control fails due to the blurred image of the light source LS." *Id.* at 9:33-37.

2. Overview of Iwasaki (EX1007)

U.S. Patent Application Publication No. 2007/0189758 ("Iwasaki"), published on August 16, 2007, is generally directed to "a camera and a method of imaging capable of appropriately photographing a scene having a large difference in luminance." EX1007 at ¶7. Iwasaki describes that the camera includes at least "a photometry section, an exposure calculating section, and a correction calculating section." *Id.* at ¶9. "The correction calculating section obtains a correction value for correction of the exposure value based on a second highest photometry value excluding a highest value out of the plurality of photometry values obtained by the photometry section." *Id.* at ¶14. Iwasaki also discloses that "[an] analyzing calculating section 34 excludes from objects of calculation for the highest value a group showing an average luminance value larger than a predetermined value," and

“obtains the exposure correction value and the gradation characteristic data”. *Id.* at ¶84-86.

3. Overview of Shui (EX1006 / EX1008)

Japanese Patent Application Publication No. 2007-25559 (“Shui”), published on February 1, 2007, is generally directed to “a focal position detection method and apparatus capable of accurately detecting focal position even in cases where a high luminance point light source exists, such as during nighttime photography.” EX1006 at ¶6. Shui discloses detecting the focal position by obtaining “focus evaluation values and photometric values ... in the entire field from the minimum distance to infinity,” detecting “the position X0 where the focus evaluation value peaks,” and obtaining “the photometric values Y1, Y2 of the positions X1, X2 before and after” the focus evaluation value peaks. *Id.* at ¶7. Shui describes an example embodiment in which “the photometric values for the entire area from the minimum distance to infinity are obtained for each divided area, the maximum values and minimum values of the photometric values for each area are detected, the differentials thereof derived, and the focal position detected by excluding the areas where the derived differential is equal to or greater than an allowed value.” *Id.* at ¶110.

III. LEVEL OF ORDINARY SKILL

Petitioner proposes that a person of ordinary skill in the art (POSITA) would have had “a bachelor’s degree in computer science, electrical or computer engineering, or a comparable field of study, plus approximately two to three years of professional experience with image processing, video processing, or other relevant industry experience.” Pet. at 3; *see also* EX1003 at ¶35.

For the purposes of this Preliminary Response, Patent Owner does not contest that the relevant fields of art include computer science, electrical or computer engineering with experience in image or video processing. While Patent Owner may not agree with the precise level of experience proposed by Petitioner, these differences need not be resolved at this stage. Patent Owner reserves the right to provide further evidence and argument on this issue at a later time.

IV. CLAIM CONSTRUCTION

A. The Board Should Deny Institution In View Of Samsung’s Indication That It Is Not Providing “Complete Constructions”

The Petition’s asserted claim constructions, or lack thereof, are contradictory and vague, in violation of 37 C.F.R. § 42.104’s explicit requirement that Petitioner provide “a statement of the precise relief requested” including “[h]ow the challenged

claim is to be construed.” 37 C.F.R. § 42.104(b). The Petitioner runs afoul in **at least three ways**:

First, Petitioner states: “Petitioner does not contend that its proposed constructions are complete constructions of these limitations or the claims for any other purpose, including for issues in the related litigation.” Pet. at 3. Instead of agreeing to be bound by the claim construction positions or lack thereof set forth in this Petition, Petitioner hedges and forces the Board and the Patent Owner to guess which construction Petitioner asserts, while at the same time reserving their right to rely on new, potentially inconsistent, constructions in this proceeding and in related litigation. The Board and Patent Owner should not be burdened with such an unbounded position on claim construction when defending its patent rights. Indeed, this is the precise reason why 37 C.F.R. § 42.104(b)(3) requires Petitioner to explain how the challenged claims are to be construed. Petitioner cannot have it both ways.

By conceding that it is reserving rights to take a different claim construction position for “any other purpose” including for another IPR petition, Petitioner is indicating that it wants to have the flexibility to take different claim construction positions even for additional invalidity arguments to the PTAB. Such reservation of rights does not comply with the requirements of 37 C.F.R. § 42.104(b)(3) and this

Board's prior decisions. Specifically, under 37 C.F.R. § 42.104(b)(3), petitioners must clearly articulate **in the petition** "[h]ow the challenged claim is to be construed." If, according to Petitioner, its claim construction positions in this Petition do **not** limit its ability to assert a claim construction position "for any other purpose," then how does Petitioner propose that the Board construe such limitations to assess Petitioner's invalidity challenges, which would result in a consistent record with District Court litigation or at the PTAB with "another IPR Petition."

Petitioner is silent and provides no explanation for its basis for being non-committal in its position of claim construction to obtain an institution decision in this forum, only to turn around and seek a different claim construction "for any other purpose," in District Court litigation or in another IPR petition. Indeed, Petitioner has done just that in prior IPRs where it argued for a plain and ordinary meaning of "character" in IPR2024-00735 and IPR2024-00777, but argued for a narrower construction of the same term in a jury trial to argue for non-infringement. *See e.g.*, IPR2024-00735, Paper No. 38 at 9-10; *see also* IPR2024-000828, Paper No. 39 at 6-10 (contending in the IPR that "mode" should be given its plain and ordinary meaning but arguing in front of the jury that two modes require the implementation of two algorithms).

But a petitioner must explain why it takes different claim construction positions in the petition and in district court and asserting different claim construction positions in the two forums alone favors denial of institution. *See Revvo Technologies, Inc. v. Cerebrum Sensor Technologies, Inc.*, IPR2025-00632, Paper 20 (Squires November 3, 2025) (precedential) (a petitioner must explain why it takes different claim construction positions in the petition and in district court); *American Airlines, Inc. et al v. Intellectual Ventures I LLC*, IPR2025-01055, Paper 11 (November 21, 2025) (denying institution when Petitioner was construing terms as plain and ordinary in the Petition, yet arguing for indefiniteness in a different forum).

Accordingly, for this reason alone the Board should deny institution of this Petition.

Second, Petitioner explicitly states: “While Petitioner has provided MPF interpretations for the below terms based on the ’950 patent's specification, Petitioner **expressly reserves the right** to argue that the specification fails to disclose sufficient corresponding structure for one or more of these terms under § 112, ¶6.” (Emphasis added). Pet. at 4. Again, Petitioner indicates that it plans to take contradictory claim construction positions – MPF (or plain and ordinary meaning)

in this Petition and indefiniteness in a related litigation.

This is precisely the type of gamesmanship that this Board has found violates the law and warrants denial of institution. *See American Airlines*, IPR2025-01055, Paper 11 (November 21, 2025). In *American Airlines*, the panel denied institution due to the petitioner purporting to assert certain terms should be construed according to the *Phillips* standard in an IPR but are indefinite in a related district court litigation. The panel reasoned that “[i]f, according to Petitioner, many limitations in claim 1 (and other claims) are indefinite, then how does Petitioner propose that the Board construe such limitations to assess Petitioner’s invalidity challenges—*Petitioner is silent*. Indeed, Petitioner provides no explanation for its different claim construction positions in the two forums. This alone favors denial of institution.” *American Airlines*, IPR2025-01055, Paper 11 at 13. This is exactly the situation Petitioners have created here. By broadly reserving their rights to “to argue that the specification fails to disclose sufficient corresponding structure for one or more of these terms under § 112, ¶ 6,” Petitioner has indicated that it will assert contradictory constructions of the same terms in this IPR and another litigation. For the same reasons as *American Airlines*, the Board should deny institution of this

Petition.

Third, beyond indicating that it will take contrary constructions with other proceedings, Petitioner asserts contradictory constructions within this Petition. The Petition states “[t]he ’950 patent claims recite several ‘unit’ terms that may implicate 35 U.S.C. § 112, ¶6. Petitioner addresses each below, providing both plain and ordinary meaning (POM) and means-plus-function (MPF) interpretations where appropriate.” Pet. at 4. The Petition then states “Petitioner submits that the following terms should be interpreted under their POM, as these terms recite sufficiently definite structure. However, should the Board disagree, Petitioner also offers MPF interpretations.” *Id.*

In Sections IV(1)(a)-(f) and IV(2)(a)-(e), the Petition sets forth means-plus-function constructions for 11 terms, while in the same sections stating the terms should alternatively be interpreted according to their plain and ordinary meaning. *Id.* at 4-8. 37 CFR 42.104(b) requires that the Petitioner set forth its constructions with “preciseness.” Further, 37 CFR 42.104(b)(3) explicitly requires that “[w]here the claim to be construed contains a means-plus-function or step-plus-function limitation as permitted under 35 U.S.C. 112(f), the construction of the claim must identify the specific portions of the specification that describe the structure, material,

or acts corresponding to each claimed function.” Petitioners are required to precisely state their construction; there is nothing in this requirement that permits the Petitioner to assert multiple alternative constructions of the same terms and leave the Board and Patent Owner to guess as to which permutation of the various constructions they intend to rely upon for invalidity. In essence, Petitioners forces the Board and Patent Owner to consider and address each permutation of the 11 factorial possible meanings of the terms given that each term can either be construed as having the specific structure or POM. Such a boundless approach should be rejected and institution should be denied.

Notwithstanding these errors in the Petition, to minimize the disputes that the Board needs to address at this preliminary stage, for the purposes of this Preliminary Response only, Patent Owner applies Petitioner's own constructions to show how the Petitioner has not met its burden under 37 CFR § 42.104(b)(4). Patent Owner reserves the right to contest Petitioner's claim construction should the Board institute an *inter partes* review of the '950 Patent.

V. LEGAL STANDARD

A claim is also not patentable if the differences between the claim and the prior art are such that the subject matter as a whole would have been obvious to a

person of ordinary skill in the art at the time of the invention. 35 U.S.C. § 103(a) (pre-AIA). Obviousness requires assessing (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness such as “commercial success, long felt but unsolved needs, failure of others, etc.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966)).

It is the petitioner’s burden to prove unpatentability, *E.I DuPont de Nemours & Co. v. Synvina C.V.*, 904 F.3d 996, 1007 (Fed. Cir. 2018), and “to demonstrate both ‘that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.’” *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367-68 (Fed. Cir. 2016) (quotations and citations omitted). However, petitioners must first show that all of the claimed elements are disclosed in the prior art. *See Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1164 (Fed. Cir. 2006) (considering motivation to combine and reasonable expectation of success only “if all the elements of an invention are found in a combination of prior art references”).

VI. PETITIONER'S EXPERT DECLARATION IS ATTORNEY ARGUMENT VEILED AS EXPERT OPINION

Petitioner relies on a declaration from its expert Dr. Schonfeld (EX1003). However, Dr. Schonfeld copies verbatim Petitioner's arguments and lacks sufficient facts and data to support his positions. For example:

Petition	Dr. Schonfeld's Declaration (EX1003)
"To the extent Patent Owner argues that Tsujino may not specifically teach detecting positions where features of pixels "have changed," Tsujino discloses data changes at the position of the light source, where "exceeding TH1" indicates a degree of change in data due to the light source. This corresponds to the '950 patent's disclosure where signal intensity distribution 13 changes at the position of the light source (Fig. 2 of the '950 patent), and at the same position, differential result 14 also changes and exceeds a threshold due to the light source ('950 patent, 3:32-42). Thus, a POSITA would have understood that the claimed "detecting a position where features of each pixel have changed" and Tsujino's threshold-based detection method are functionally equivalent because Tsujino's method identifies positions where pixel luminance values differ from a baseline threshold value,	"To the extent Patent Owner argues that Tsujino may not specifically teach detecting positions where features of pixels "have changed," Tsujino discloses data changes at the position of the light source, where "exceeding TH1" indicates a degree of change in data due to the light source. This corresponds to the '950 patent's disclosure where signal intensity distribution 13 changes at the position of the light source (<i>see</i> Fig. 2 of the '950 patent), and at the same position, differential result 14 also changes and exceeds a threshold due to the light source (<i>see</i> '950 patent, 3:32-42). Thus, a POSITA would have understood that the claimed "detecting a position where features of each pixel have changed" and Tsujino's threshold-based detection method are functionally equivalent because Tsujino's method identifies positions where pixel luminance values differ

Petition	Dr. Schonfeld's Declaration (EX1003)
which represents a change in pixel characteristics. EX1005, Fig. 12, 11:26-36. A POSITA would have recognized that when Tsujino's system detects pixels exceeding luminance thresholds, it is identifying positions where pixel features have changed relative to a reference state (<i>i.e.</i>, below threshold state), which is particularly relevant when identifying high-luminance areas that affect autofocus performance. <i>Id.</i>, Fig. 12; 11:26-36.” (Pet. at 14-15).	from a baseline threshold value, which represents a change in pixel characteristics. <i>Id.</i>, Fig. 12, 11:26-36. A POSITA would have recognized that when Tsujino's system detects pixels exceeding luminance thresholds, it is identifying positions where pixel features have changed relative to a reference state (<i>i.e.</i>, below-threshold state), which is particularly relevant when identifying high-luminance areas that affect autofocus performance. <i>Id.</i>, Fig. 12, 11:26-36.” (EX1003 at ¶81).
“Furthermore, to the extent Patent Owner still argues that Tsujino may not specifically teach detecting positions where features of pixels "have changed," a POSITA would have understood that Tsujino's threshold based detection method considers a baseline range of luminance values that are below a threshold value and identifies pixel positions whose luminance values exceed that baseline (<i>i.e.</i>, luminance values that are higher than a threshold). This detection therefore identifies pixel locations whose luminance values have changed compared to the luminance values of other pixel locations in the image. Once again, this identification is particularly relevant when identifying high-luminance areas that affect	“Furthermore, to the extent Patent Owner still argues that Tsujino may not specifically teach detecting positions where features of pixels “have changed,” a POSITA would have understood that Tsujino's threshold based detection method considers a baseline range of luminance values that are below a threshold value and identifies pixel positions whose luminance values exceed that baseline (<i>i.e.</i>, luminance values that are higher than a threshold). This detection therefore identifies pixel locations whose luminance values have changed compared to the luminance values of other pixel locations in the image. Once again, this identification is particularly relevant when identifying high-luminance areas that affect

Petition	Dr. Schonfeld's Declaration (EX1003)
autofocus performance. EX1005, Fig. 12; 11:26-36.” (Pet. at 15).	autofocus performance. <i>Id.</i> , Fig. 12, 11:26-36.” (EX1003 at ¶82).
“In addition, Iwasaki teaches feature detection through its analyzing calculating section 34 that performs subject segmentation processing to group pixel areas belonging to the same subject and calculates average luminance values for each grouped area. EX1007, ¶¶[0080]-[0082]. This segmentation identifies positions where different subjects with different luminance characteristics are located, which corresponds to detecting positions where pixel features have changed. The combination of Tsujino's threshold-based detection and Iwasaki's subject-based grouping provides a comprehensive approach to feature detection.” (Pet. at 15-16).	“In addition, Iwasaki teaches feature detection through its analyzing calculating section 34 that performs subject segmentation processing to group pixel areas belonging to the same subject and calculates average luminance values for each grouped area. EX1007, Paragraphs [0080]-[0082]. This segmentation identifies positions where different subjects with different luminance characteristics are located, which corresponds to detecting positions where pixel features have changed. The combination of Tsujino's threshold-based detection and Iwasaki's subject-based grouping provides a comprehensive approach to feature detection.” (EX1003 at ¶83).

Dr. Schonfeld does not provide any other analysis or explanation why a POSITA would find something obvious or be motivated to modify the asserted references other than Petitioner's own conclusory and boilerplate statements. The above citations are merely exemplary for Element 1[a] of Ground 1, but Petitioner employs the same tactics throughout the other elements of Ground 1 and the remainder of the Petition. *See generally* Sections VII(A)-(C).

Such conclusory and superficial attorney argument in the guise of expert testimony cannot serve as sufficient support for Petitioner's arguments. *See, e.g., Cardiocom, LLC v. Bosch Healthcare Sys., Inc.*, IPR2013-00439, Paper 26, 15-16 (PTAB Jan. 16, 2014); *see also Kinetic Techs., Inc. v. Skyworks Solutions, Inc.*, IPR2014-00529, Paper 8, 15-16 (PTAB Sept. 23, 2014) ("Merely repeating an argument from the Petition in the declaration of a proposed expert does not give that argument enhanced probative value," and a petitioner cannot move forward to trial based upon such "mere conclusory statements.") (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)); *TRW Auto. US LLC v. Magna Elecs., Inc.*, IPR2014- 00258, Paper 18, 10-11 (PTAB Aug. 27, 2014) (giving little to no weight to expert testimony that "did not elaborate on [Petitioner's] position because it simply repeated [Petitioner's] conclusory statements verbatim"); *see also InfoBionic, Inc. v. Braemar Mfg., LLC*, IPR2015-01704, Paper 11, 6 (PTAB Feb. 16, 2016) (denying institution because expert merely repeated the argument in the Petition about what a reference meant without explaining why the expert believed that meaning to be correct).

Moreover, such conclusory opinions by an expert that merely parrot Petitioner's arguments should be accorded little weight when used to supply a missing limitation. *See Xerox Corp. et al. v. Bytemark, Inc.*, IPR2022-00624, Paper

12, p. 5 (PTAB Feb. 10, 2023) (Former Director noting in a Sua Sponte affirmation of the decision: “I determine that the Board was correct in giving little weight to Petitioner’s expert because the expert declaration merely offered conclusory assertions without underlying factual support and repeated, verbatim, Petitioner’s conclusory arguments.”). Former Director stated that:

The declaration does not provide any technical detail, explanation, or statements supporting why the expert determines that the feature in question was required or would have been obvious based on the prior art disclosure. See Ex. 1003 ¶ 54. Instead, the declaration copies, word-for-word, Petitioner’s conclusory assertions. Compare *id.*, with Pet. 28–29. The declaration sets forth Petitioner’s conclusory assertions as though they are facts, rather than setting forth facts and evidence in support of Petitioner’s assertions. Accordingly, I agree with the Board’s explanation that “the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight” under 37 C.F.R. § 42.65(a).

Id. As discussed *infra*, Dr. Schonfeld’s “opinions” are copied verbatim from the Petition, including in attempting to fill in missing limitations in violation of 37 C.F.R. § 42.104(b)(4).

Therefore, little to no weight should be given to Dr. Schonfeld's testimony. And, absent his conclusory testimony, the Petition has no evidentiary support. Institution should be denied for this reason.

VII. THE PETITION DOES NOT SHOW A LIKELIHOOD OF PREVAILING WITH RESPECT TO ANY CHALLENGED CLAIM

In addition to the grounds already presented in Patent Owner's Request for Discretionary Denial (Paper 8), institution should be denied because Petitioner does not establish a reasonable likelihood of prevailing against any challenged claim.

A. Ground 1: Petitioner Fails to Establish That Claims 1-15 Would Have Been Obvious Based on Tsujino in view of Iwasaki

Petitioner has not shown a reasonable likelihood of prevailing on Ground 1 because the alleged combination of Tsujino and Iwasaki would not have been obvious to a POSITA and fails to disclose or suggest key features of the '950 Patent's invention, as discussed in detailed below. Indeed, Petitioner appears to recognize its failure of proof in Ground 1 for at least Elements [1a] and [1b] by its use of an additional reference, Shui, added in Ground 2. As explained in more detail below in Section VII(B), Ground 2 again relies on the combination of Tsujino and Iwasaki, as in Ground 1, but adds Shui to this combination to allegedly teach certain claim elements, including Elements [1a] and [1b]. Petitioner appears to implicitly admit

that the combination of Tsujino and Iwasaki alone does not render obvious Elements [1a] and [1b]; otherwise, Ground 2 would be superfluous.

1. Petitioner Fails to Establish that a POSITA Would Combine Tsujino in view of Iwasaki

Petitioner's assertion that a POSITA would have combined Tsujino and Iwasaki rests on hindsight, ignoring that these references address distinct problems with fundamentally different solutions. Pet. 11-12. Tsujino is directed to driving the adjustment of a distance of the lens of a camera relative to the imaging surface for proper autofocus execution. EX1005 at Abstract and 1:51-67. Tsujino describes that the benefit of its invention is "to correctly arrange the focus lens 12 at the focal point while avoiding the defocusing caused by the blurred image on a periphery of the light source LS." *Id.* at 13:20-23. As part of achieving this control of the focal point of the lens, Tsujino discloses a high-luminance excluding function of the CPU that is intended to prevent saturated or near-saturated pixels from affecting the focus evaluation when a bright source is present. *Id.* at 9:31-37.

On the other hand, unlike Tsujino's goal of controlling the autofocus operations and the location of the lens, Iwasaki is directed to performing automatic image processing to avoid over saturation of light and dark values, *i.e.*, over or under

exposure. EX1007 at ¶108. Iwasaki describes that the analyzing calculating section 34 determines the highest “average luminance values of the respective groups as objects of calculation as the highest value,” which is used for adjusting the exposure correction value and the gradation characteristic data of the image. *Id.* at ¶84-93. The analyzing calculating section 34 automatically adjusts the exposure correction value and the gradation characteristic data “based on the difference value between the proper exposure value (obtained in S107) and the highest value (obtained in S108) ...” *Id.* at ¶108.

Although Tsujino and Iwasaki both perform processes using luminance values, they do so using different mechanisms, for different purposes, and without any need for the teachings of the other. Tsujino does not describe a need for color saturation correction as taught by Iwasaki, and conversely, Iwasaki does not disclose a desire for corrections to autofocus as taught by Tsujino. Simply because both references use luminance values does not mean that a POSITA would have found it obvious to combine them to achieve the claimed features of the '950 Patent, without some evidence of a reason to do so, which has not been shown. Petitioner asserts that a POSITA would have found it obvious to combine Tsujino and Iwasaki because “combining these complementary techniques would result in a comprehensive

camera system capable of handling both autofocus and exposure control in scenes with challenging lighting conditions.” Pet. at 12. This is clear hindsight.

First, Tsujino was filed after the publication of Iwasaki (August 16, 2007 and based on JP2006-036243 filed February 14, 2006), and therefore could have included exposure control techniques similar to Iwasaki, but instead solved the “challenging lighting conditions” for a camera using autofocus control of the lens. Second, there is no evidence of record, including in Dr. Schonfeld’s declaration (EX1003), that a POSITA would have found it obvious to modify Tsujino with Iwasaki. Petitioner’s rationale of addressing “challenging lighting conditions” is already solved by Tsujino’s improved autofocus features, and there is no evidence of a need to provide additional exposure control processes, as taught by Iwasaki, on top of the autofocus control, except through improper hindsight reasoning. Thus, a POSITA would not have found it obvious to combine Tsujino and Iwasaki to achieve the claims of the ’950 Patent, except through the use of improper hindsight.

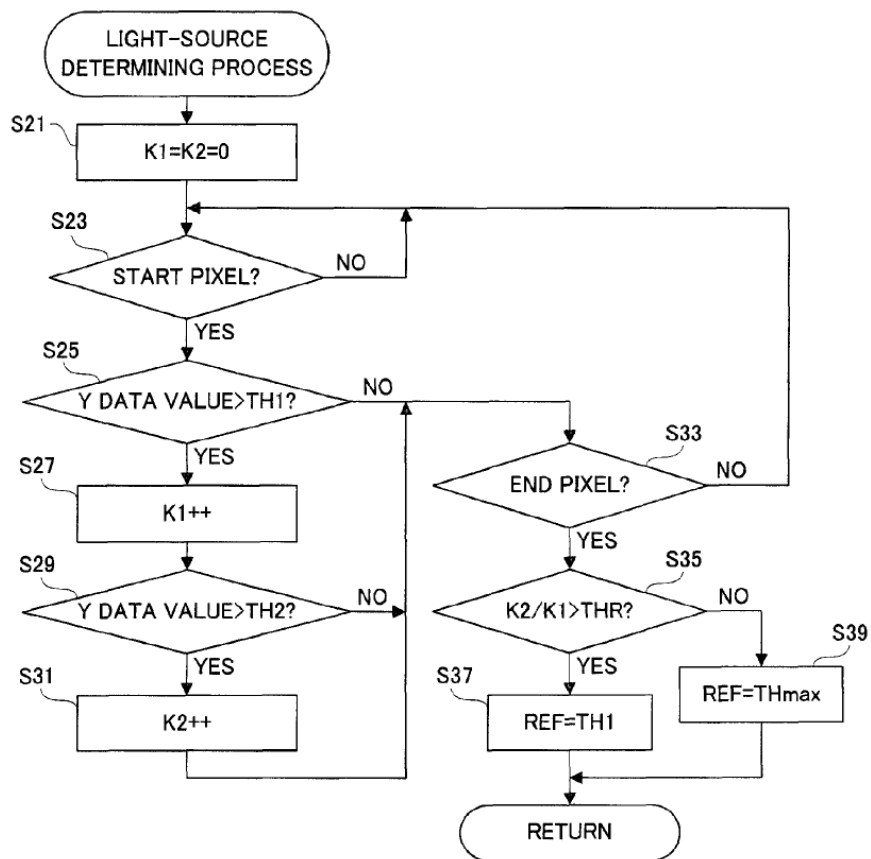
2. Petitioner Fails to Establish That Claim Element [1a] Would Have Been Obvious Based on Tsujino in view of Iwasaki

The Petition appears to recognize its own shortcomings in its mapping of Element [1a] and attempts to distort the claim language and the ’950 Patent’s

disclosure to compensate. Claim Element [1a] recites that a feature detection unit of the signal processor “detects a position where features of ***each pixel of an input picture signal have changed.***” (Emphasis added). The Petition fails to establish this limitation.

Petitioner alleges that Tsujino's light source determining process (step S9) performs the claimed detection of a position where features of each pixel of an input picture signal have changed. Pet. at 13-14. This process is first described in Tsujino in relation to FIGs. 4-8(b). Tsujino's light source determining process determines whether or not a light source LS is included in an image / image signal. This determination is made based on “a ratio of a partial image having a Y data value above ‘TH2’ to a partial image having a Y data value above ‘TH1’ ... (TH2>TH1).” EX1005 at 8:61-64. Tsujino describes that “the number of pixels in which the Y data value exceeds ‘TH1’ is evaluated as a coefficient K1, and the number of pixels in which the Y data value exceeds ‘TH2’ is evaluated as a coefficient K2, and then, ‘K2/K1’ is compared with a threshold value THR.” *Id.* at 8:64-9:1; *see also id.* at 9:1-11.

Petitioner relies on the process shown in FIG. 12 (reproduced below) as the basis of Petitioner's mapping to Element [1a]:



Tsujino fail to disclose or suggest detecting a position where features of each pixel of an input picture signal have changed. For example, in step S23, the CPU 46 determines “whether or not a current pixel is a start pixel (a pixel arranged at an upper left in the coordinate) for the focus area FA,” and if so, the CPU 46 determines “whether or not the Y data value of the current pixel exceeds ‘TH1’.” EX1005 at 11:24-31. “[W]hen the Y data value exceeds ‘TH1’ and equal to or less than ‘TH2’, only the coefficient K1 is incremented, and when the Y data value exceeds ‘TH2’,

the coefficients K1 and K2 are both incremented.” *Id.* at 11:36-40. Upon completion of this comparison for the pixels, the CPU 46 determines “whether or not the ratio of the coefficient K2 to the coefficient K1, i.e., $K2/K1$, exceeds the threshold value THR.” *Id.* at 11:47-49. When the ratio $K2/K1$ exceeds the threshold value THR, TH1 is set as the reference value REF, and when the ratio $K2/K1$ does not exceed the threshold value THR, THmax is set to the reference value REF. *Id.* at 11:49-53.

Tsujino also explains that “[t]he reference value REF is set to ‘TH1’ corresponding to the object scene that includes the light source LS as shown in FIG. 5, whereas it is set to ‘THmax’ corresponding to the object scene that does not include a light source LS as shown in FIG. 6.” *Id.* at 8:55-60.

Petitioner asserts that this light source determining process of Tsujino constitutes a “pixel-by-pixel analysis [that] identifies changes in luminance for each pixel of the input picture signal,” and therefore renders obvious the claimed “feature detection unit which detects a position where features of each pixel of an input picture signal have changed.” See Pet. at 14 (citing to EX1005 at 11:26-36). However, Petitioner distorts the description of Tsujino’s light source determining process. Tsujino’s disclosure is silent as to detection of a position where features of a pixel have changed.

As explained above, Tsujino's light source determining process evaluates whether of Y data value, or corresponding coefficient value K, of a pixel exceeds certain thresholds (*e.g.*, threshold TH1, TH2, and/or THmax). The pixels are compared to the same thresholds *i.e.*, whether the pixel is above or below a pre-set threshold value. EX1005 at 11:24-49. Petitioner, and its expert, point to no disclosure in Tsujino that this determination evaluates change of a feature of the pixel.

Thus, Tsujino fails to disclose or render obvious "a feature detection unit which detects a position where features of each pixel of an input picture signal have changed," as recited in Element [1a].

Iwasaki also fails to disclose or suggest Element [1a]. The Petition asserts that Iwasaki teaches "feature detection through its analyzing calculating section 34 that performs subject segmentation processing to group pixel areas belonging to the same subject and calculates average luminance values for each grouped area." Pet. at 15 (citing EX1007 at ¶¶80-82). But Iwasaki describes an analyzing calculating section 34 that determines the highest "average luminance values of the respective groups as objects of calculation as the highest value." EX1007 at ¶¶84-93. The analyzing calculating section 34 performs exposure correction and gradation characteristic

correction. *Id.* at ¶¶55-58 and 75-82. However, Iwasaki does not disclose or suggest detecting or determining features of each pixel that have changed.

Petitioner provides nothing more than a conclusory statement, parroted from Dr. Schonfeld's declaration (EX1003 at ¶83), that identifying "positions where different subjects with different luminance characteristics are located...corresponds to detecting positions where pixel features have changed." Pet. at 15-16. But this is not from the disclosure of Iwasaki or Tsujino. It is simply a conclusory assertion divorced from any explanation on how in the context of Tsujino's systems of comparing thresholds and determining average luminance values in the context of Iwasaki's system renders obvious "a feature detection unit which detects a position where features of each pixel of an input picture signal have changed," as recited in Element [1a]. Petitioner's conclusory assertions are divorced from any discussion about the specific image processing techniques disclosed within Iwasaki or Tsujino and/or their combined system.

The combination of Tsujino and Iwasaki would not have been obvious to a POSITA, as explained above in Section VII(A)(1). Even if such a combination was obvious, the alleged combination of Tsujino and Iwasaki fails to render obvious a feature detection unit which detects a position where features of each pixel of an

input picture signal have changed, as recited in Element [1a], because the combined teachings do not detect features of each pixel that have changed, as explained above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that Claim Element [1a] would have been rendered obvious based on a combination of Tsujino and Iwasaki.

3. Petitioner Fails to Establish That Claim Element [1b] Would Have Been Obvious Based on Tsujino in view of Iwasaki

Claim Element [1b] recites that a region creation unit that creates a region “by *removing pixels with the features* from an evaluated value extraction region.” (Emphasis added). The Petition fails to establish this limitation.

The Petition alleges that both Tsujino and Iwasaki render obvious Element [1b] based on similar faulty reasoning and misunderstandings of the references. First, Tsujino describes “a high-luminance excluding function for excluding from a target to be noticed of the AF process a partial image having a luminance exceeding ‘TH1’ out of the object scene image generated by the image sensor.” EX1005 at Abstract. According to Tsujino, the purpose of the high-luminance excluding function is to prevent saturated or near-saturated pixels from affecting the focus evaluation when a bright source is present. *Id.* at 9:31-37. The high-luminance

excluding function excludes, from a target of a focus evaluation circuit 30, the partial image having a luminance exceeding TH1, when the partial image has a luminance exceeding TH2, which is greater than TH1. *Id.* at 12:41-51.

The Petition makes the conclusory assertion that a POSITA would have understood that Tsujino's "excluding high-luminance pixels from focus evaluation consideration" and the claimed creation of a region by removing pixels with features are "functionally equivalent." Pet. at 16-17. But, Tsujino is completely silent as to "creat[ing] a region," as claimed. Indeed, there simply is no recitation of "region" or "region creation" in Tsujino, let alone linking region creation to excluding certain saturated or high-luminance pixels from focus evaluation circuit 30, whereas the claimed pixels with the changed features are *in* an evaluated value extraction region and *then removed to form the region* created by the region creation unit. The Petitioner or its expert, Dr. Schonfeld, have provided no evidence for the conclusory assertion that not considering certain oversaturated pixels by a focus evaluation circuit corresponds to the claimed region creation unit.

Similar to Tsujino, Iwasaki fails to disclose or suggest removing pixels from an evaluated value extraction region to form the region created by the region creation unit, as required by Claim Element [1b]. Indeed, Iwasaki is also completely silent as

to any disclosure “region” or “region creation,” and does not disclose that pixels are within an evaluated value extraction region and removed to create a region.

The combination of Tsujino and Iwasaki would not have been obvious to a POSITA, as explained above in Section VII(A)(1). Even if such a combination was obvious, the alleged combination of Tsujino and Iwasaki fails to render obvious removing pixels with the features from an evaluated value extraction region to form a region created by the region creation unit, as recited in Element [1b], because the combined teachings do not disclose removing pixels from an evaluated value extraction region to create a region, as explained above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that Claim Element [1b] would have been rendered obvious based on a combination of Tsujino and Iwasaki.

4. Petitioner Fails to Establish That Claim Element [1f] Would Have Been Obvious Based on Tsujino in view of Iwasaki

Claim Element [1f] recites “wherein the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.” The Petition fails to establish this limitation.

As explained above in Section VII(A)(2) and Section VII(A)(3), Tsujino and Iwasaki, either individually or in combination, fail to render obvious detecting pixels with features that have changed and removing those pixels from an evaluated value extraction region to create a region by the region creation unit. Without disclosing or rendering obvious these elements of claim 1, the CPU 46 of Tsujino and/or the CPU 42 of Iwasaki also do not control a processing unit using an evaluated value of a region ***from which pixels having an extracted predetermined feature are removed***. The Petition and Dr. Schonfeld's declaration provide nothing more than conclusory statements relying on the mischaracterizations and misunderstandings of Tsujino and Iwasaki, as explained in detail above in Section VII(A)(2) and Section VII(A)(3).

The combination of Tsujino and Iwasaki would not have been obvious to a POSITA, as explained above in Section VII(A)(1). Even if such a combination was obvious, which it would not have been, the alleged combination of Tsujino and Iwasaki fails to render obvious the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed, as recited in Element [1f], because the combined teachings do not detect the feature change of pixels and create a region by removing pixels with

the features from an evaluated value extraction region, which are then used by a control unit to control a processing unit of a signal processor.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that Claim Element [1f] would have been rendered obvious based on a combination of Tsujino and Iwasaki.

5. Petitioner Fails to Establish That Claim 2 Would Have Been Obvious Based on Tsujino in view of Iwasaki

Claim 2 ([2pre]-[2b]) recites: “A signal processor according to claim 1, wherein the feature detection unit includes: a hold unit which holds position information of the detected pixels; and the region creation unit which creates a region by excluding the held positions from an evaluated value extraction region.”

Because claim 2 depends from claim 1, it includes all of the limitations that the alleged combination of Tsujino and Iwasaki fail to teach, as detailed *supra* §VII(A)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's argument for claim 2 fails for at least these same reasons.

In addition, with respect to Claim Element [2a], the alleged combination of Tsujino and Iwasaki fail to disclose or suggest “a hold unit which holds position information of the detected pixels.” The Petition merely asserts that the fact that

Tsujino discloses SDRAM 34 equates to Tsujino rendering obvious to hold position information of the detected pixels. As acknowledged by Petitioner's unsupported, conclusory statements, there is no disclosure of Tsujino SDRAM 34 holding or storing position information of pixels that have been detected to have features that have changed (*see* Element 1(a)). Taking an even bigger logical leap, the Petitioner asserts that Iwasaki implicitly teaches memory resources because its CPU 42 would utilize memory components for its processes. Nowhere in Iwasaki does it disclose or render obvious to a POSITA "a hold unit which holds position information of the detected pixels."

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claim 2 would have been rendered obvious the alleged combination of Tsujino and Iwasaki.

6. Petitioner Fails to Establish That Claims 3 and 12 Would Have Been Obvious Based on Tsujino in view of Iwasaki

Claim 3 ([3pre]-[3c]) recites: "A signal processor according to claim 2, wherein: the processing unit includes a focus lens, and a drive unit for driving the focus lens; a photoelectric conversion unit for performing photoelectric conversion is disposed between the focus lens and the extraction unit; and the control unit

controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.” Claim 12 ([12pre]-[12c]) recites similar limitations and is treated by the Petition to “recite identical elements.” Patent Owner disagrees that claims 3 and 12 are identical; however, for the limited purposes of this Preliminary Response, claims 3 and 12 will be treated the same because Petitioner's arguments fail for the same reasons, as explained below.

Because claims 3 and 12 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Tsujino and Iwasaki fail to teach, as detailed *supra* §VII(A)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 3 and 12 fail for at least these same reasons. Petitioner's arguments for claim 3 also fail based on the deficiencies of its arguments with respect to claim 2, as explained in Section VII(A)(5) above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 3 and 12 would have been rendered obvious the alleged combination of Tsujino and Iwasaki.

7. Petitioner Fails to Establish That Claims 4 and 14 Would Have Been Obvious Based on Tsujino in view of Iwasaki

Claim 4 ([4pre]-[4b]) recites: “A signal processor according to claim 2, wherein: the processing unit is a signal processing unit for adjusting white balance of an input picture signal; and the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.” Claim 14 ([14pre]-[14b]) recites similar limitations and is treated by the Petition to “recite identical elements.” Patent Owner disagrees that claims 4 and 14 are identical; however, for the limited purposes of this Preliminary Response, claims 4 and 14 will be treated the same because Petitioner's arguments fail for the same reasons, as explained below.

Because claims 4 and 14 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Tsujino and Iwasaki fail to teach, as detailed *supra* §VII(A)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 4 and 14 fail for at least these same reasons. Petitioner's arguments for claim 4 also fail based on the deficiencies of its arguments with respect to claim 2, as explained in Section VII(A)(5) above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 4 and 14 would have been rendered obvious the alleged combination of Tsujino and Iwasaki.

8. Petitioner Fails to Establish That Claims 5 and 8 Would Have Been Obvious Based on Tsujino in view of Iwasaki

Claim 5 ([5pre]-[5b]) recites: “A signal processor according to claim 2, wherein: the region creation unit includes a region segmentation unit for segmenting an effective region in advance, and an overlap detection unit which detects overlap of position information output from the hold unit with blocks segmented by the region segmentation unit; and the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.” Claim 8 ([8pre]-[8b]) recites similar limitations and is treated by the Petition to “recite identical elements.” Patent Owner disagrees that claims 5 and 8 are identical; however, for the limited purposes of this Preliminary Response, claims 5 and 8 will be treated the same because Petitioner's arguments fail for the same reasons, as explained below.

Because claims 5 and 8 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Tsujino and Iwasaki fail to teach,

as detailed *supra* §VII(A)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 5 and 8 fail for at least these same reasons. Petitioner's arguments for claims 5 and 8 also fail based on the deficiencies of its arguments with respect to claim 2, upon which claims 5 and 8 also depend. *See supra* Section VII(A)(5).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 5 and 8 would have been rendered obvious the alleged combination of Tsujino and Iwasaki.

9. Petitioner Fails to Establish That Claims 6, 9, 11, 13, and 15 Would Have Been Obvious Based on Tsujino in view of Iwasaki

Claim 6 ([6pre]-[6a]) recites: “A signal processor according to claim 2, wherein the region creation unit includes a unit which keeps the total area of the evaluated value extraction region constant by excluding unnecessary portions from the evaluated value extraction region.” Claims 9, 11, 13, and 15 recites similar limitations and is treated by the Petition to “recite identical elements.” Patent Owner disagrees that claims 6, 9, 11, 13, and 15 are identical; however, for the limited purposes of this Preliminary Response, claims 6, 9, 11, 13, and 15 will be treated the same because Petitioner's arguments fail for the same reasons, as explained below.

Because claims 6, 9, 11, 13, and 15 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Tsujino and Iwasaki fail to teach, as detailed *supra* §VII(A)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 6, 9, 11, 13, and 15 fail for at least these same reasons. Petitioner's arguments for claims 6 and 9 also fail based on the deficiencies of its arguments with respect to claim 2, upon which claims 6 and 9 also depend. *See supra* Section VII(A)(5).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 6, 9, 11, 13, and 15 would have been rendered obvious the alleged combination of Tsujino and Iwasaki.

10. Petitioner Fails to Establish That Claims 7 and 10 Would Have Been Obvious Based on Tsujino in view of Iwasaki

Claim 7 ([7pre]–[7c]) recites: “A signal according to claim 2, wherein: the processing unit is a light intensity adjustment unit for controlling exposure; a lens and a photoelectric conversion unit for performing photoelectric conversion are disposed between the light intensity adjustment unit and the extraction unit; and the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.” Claim 10

(([10pre]-[10c]) recites similar limitations and is treated by the Petition to “recite identical elements.” Patent Owner disagrees that claims 7 and 10 are identical; however, for the limited purposes of this Preliminary Response, claims 7 and 10 will be treated the same because Petitioner's arguments fail for the same reasons, as explained below.

Because claims 7 and 10 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Tsujino and Iwasaki fail to teach, as detailed *supra* §VII(A)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 7 and 10 fail for at least these same reasons. Petitioner's arguments for claim 7 also fail based on the deficiencies of its arguments with respect to claim 2, upon which claim 7 depends. *See supra* Section VII(A)(5).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 7 and 10 would have been rendered obvious the alleged combination of Tsujino and Iwasaki.

B. Ground 2: Petitioner Fails to Establish That Claims 1-15 Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

Petitioner has not shown a reasonable likelihood of prevailing on Ground 2 because the alleged combination of Tsujino, Shui, and Iwasaki would not have been

obvious to a POSITA and fails to disclose or suggest key features of the '950 Patent's invention, as discussed in detailed below.

1. Petitioner Fails to Establish that a POSITA Would Combine Tsujino, Shui, and Iwasaki

Petitioner's assertion that a POSITA would have combined Tsujino, Shui, and Iwasaki rests on hindsight, ignoring that these references address distinct problems with fundamentally different solutions. Pet. 36-38. As explained above in Section VII(A)(1), Tsujino is directed to driving the adjustment of a distance of the lens of a camera, which uses a high-luminance excluding function to prevent saturated or near-saturated pixels from affecting the focus evaluation. EX1005 at Abstract, 1:51-67, and 9:31-37. Iwasaki is directed to automatic image processing to avoid over saturation of light and dark values and automatically adjusts the exposure correction value and the gradation characteristic data. = EX1007 at ¶108.

Shui is directed to a focal position detection method that improves autofocus accuracy in high-luminance point light sources, such as nighttime photography. EX1006 at Abstract. Shui describes that in contrast-detection autofocus, saturated signals from bright point sources can create "virtual peaks" in the focus evaluation curve, leading to incorrect focus if peak position alone is used. *Id.* at ¶¶2-8 and 56-

61. Shui addresses this by jointly using “focus evaluation values and photometric values ... in the entire field from the minimum distance to infinity,” detecting the peak focus evaluation position X0, and then evaluating the change in photometric values immediately before and after that peak. *Id.* at ¶7.

Although Tsujino, Shui, and Iwasaki each perform processes using luminance values, they do so using distinct procedures and without any need for the teachings of the other. Tsujino and Shui both relate to autofocus alone but address the problem of point light sources from distinct directions. Tsujino controls the lens based on excluding areas above certain luminance thresholds, whereas Shui uses contrast-detection autofocus for the **entire field** and detecting the peak focus evaluation position and then evaluating the change in photometric values immediately before and after the peak. Further, Iwasaki is not concerned with autofocus but with avoiding oversaturation.

The Petition fails to provide any evidence, including in Dr. Schonfeld's declaration (EX1003), that a POSITA would have found it obvious to modify Tsujino with Shui and Iwasaki. Petitioner's rationale of addressing “challenging lighting conditions” is already solved by Tsujino's improved autofocus features, and there is no evidence of a need to provide additional exposure control processes, as

taught by Shui and/or Iwasaki, except through hindsight. Thus, a POSITA would not have found it obvious to combine Tsujino, Shui, and Iwasaki to achieve the claims of the '950 Patent, except through the use of improper hindsight.

2. Petitioner Fails to Establish That Claim Element [1a] Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

Claim Element [1a] recites that a feature detection unit of the signal processor “detects a position where features of *each pixel of an input picture signal have changed.*” (Emphasis added). The Petition fails to establish this limitation.

The alleged combination of Tsujino and Iwasaki fails to disclose or render obvious this claim element for the reasons discussed above in Section VII(A)(2). Shui fails to cure these deficiencies. Shui describes jointly using “focus evaluation values and photometric values ... in the entire field from the minimum distance to infinity,” detecting the peak focus evaluation position X0, and then evaluating the change in photometric values immediately before and after that peak. EX1006 at ¶7.

Petitioner alleges that “[w]hen [Shui is] combined with Tsujino's threshold-based detection method that identifies pixels exceeding luminance thresholds, the resulting system can identify positions where pixel features change in visual characteristics.” Pet. at 39-40. However, Shui does not detect a position where

features of each pixel of an input picture signal have changed. Contrary to the Petition's assertions, Shui does not disclose that the locations of the peak and before / after the peak are necessarily different pixels or adjacent pixels. The conclusory assertions from Petitioner, and its expert, are completely untethered from the disclosures of Shui. Thus, this combination also fails to disclose or render obvious "a feature detection unit which detects a position where features of each pixel of an input picture signal have changed," as recited in Element [1a].

The combination of Tsujino, Shui, and Iwasaki would not have been obvious to a POSITA, as explained above in Section VII(B)(1). Even if such a combination was obvious, the alleged combination of Tsujino, Shui, and Iwasaki fails to render obvious a feature detection unit which detects a position where features of each pixel of an input picture signal have changed, as recited in Element [1a], because the combined teachings do not detect features of each pixel that have changed, as explained above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that Claim Element [1a] would have been rendered obvious based on a combination of Tsujino, Shui, and Iwasaki.

3. Petitioner Fails to Establish That Claim Element [1b] Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

Claim Element [1b] recites that a region creation unit that creates a region “by *removing pixels with the features* from an evaluated value extraction region.” (Emphasis added). The Petition fails to establish this limitation.

The alleged combination of Tsujino and Iwasaki fails to disclose or render obvious this claim element for the reasons discussed above in Section VII(A)(3). Shui fails to cure these deficiencies. Shui describes that a focus area may be divided into multiple areas for the focal position detection method and the focus evaluation values “for the entire range from the minimum distance to infinity are obtained for each area.” EX1006 at ¶15.

The Petition mischaracterizes this description in Shui as corresponding to the claimed region creation unit which creates a region by removing pixels with the features from an evaluated value extraction region, as recited in Element [1b]. Pet. at 40-41. However, Shui discloses detecting a focal position by excluding certain areas in which the differential between the minimum and maximum photometric values exceeds a threshold (EX1006 at ¶16), whereas the claimed pixels with the changed features are in an evaluated value extraction region and then removed to

form the region created by the region creation unit. Beyond conclusory assertions, there is no evidence of how excluding certain areas for focal calculation corresponds to removing pixels from the evaluated value extraction region to form a region created by the region creation unit.

The combination of Tsujino, Shui, and Iwasaki would not have been obvious to a POSITA, as explained above in Section VII(B)(1). Even if such a combination was obvious, which it would not have been, the alleged combination of Tsujino, Shui, and Iwasaki fails to render obvious removing pixels with the features from an evaluated value extraction region to form a region created by the region creation unit, as recited in Element [1b], because the combined teachings do not perform the act of removing pixels from an evaluated value extraction region to create another region, as explained above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that Claim Element [1b] would have been rendered obvious based on a combination of Tsujino, Shui, and Iwasaki.

4. Petitioner Fails to Establish That Claim Element [1f] Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

Claim Element [1f] recites “wherein the control unit controls the processing

unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.” The Petition fails to establish this limitation.

The alleged combination of Tsujino and Iwasaki fails to disclose or render obvious this claim element for the reasons discussed above in Section VII(A)(4). Shui fails to cure these deficiencies. As discussed above with respect to Claim Elements [1a] and [1b], Shui fail to fail to render obvious detecting pixels with features that have changed and removing those pixels from an evaluated value extraction region to create a region by the region creation unit. Without disclosing or rendering obvious these elements of claim 1, Shui also do not control a processing unit using an evaluated value of a region ***from which pixels having an extracted predetermined feature are removed***. The Petition and Dr. Schonfeld's declaration provide nothing more than conclusory statements, as explained in detail above in Section VII(A)(2)-(3) and Section VII(B)(2)-(3).

The combination of Tsujino, Shui, and Iwasaki would not have been obvious to a POSITA, as explained above in Section VII(B)(1). Even if such a combination was obvious, which it would not have been, the alleged combination of Tsujino, Shui, and Iwasaki fails to render obvious the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted

predetermined feature are removed, as recited in Element [1f], because the combined teachings do not detect the feature change of pixels and create a region by removing pixels with the features from an evaluated value extraction region, which are then used by a control unit to control a processing unit of a signal processor.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that Claim Element [1f] would have been rendered obvious based on a combination of Tsujino, Shui, and Iwasaki.

5. Petitioner Fails to Establish That Claim 2 Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

See VII(A)(5) supra.

Because claim 2 depends from claim 1, it includes all of the limitations that the alleged combination fails to teach, as detailed *supra* §VII(B)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's argument for claim 2 fails for at least these same reasons.

In addition, with respect to Claim Element [2a], the alleged combination of Tsujino, Shui, and Iwasaki fail to disclose or suggest “a hold unit which holds position information of the detected pixels.” The Petition merely asserts that the fact that Tsujino disclosing SDRAM 34 and Shui disclosing RAM 46 equates to Tsujino

and Shui rendering obvious to hold position information of the detected pixels. As acknowledged by Petitioner's unsupported, conclusory statements, there is no disclosure of Tsujino's SDRAM 34 or Shui's RAM 46 holding or storing position information of pixels that have been detected to have features that have changed (*see* Element 1(a)). Taking an even bigger logical leap, the Petitioner asserts that Iwasaki implicitly teaches memory resources because its CPU 42 would utilize memory components for its processes. Nowhere in Iwasaki does it disclose or render obvious to a POSITA "a hold unit which holds position information of the detected pixels."

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claim 2 would have been rendered obvious the alleged combination of Tsujino, Shui, and Iwasaki.

6. Petitioner Fails to Establish That Claims 3 and 12 Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

See VII(A)(6) *supra*. Because claims 3 and 12 ultimately depend from claim 1, they each include all of the limitations that the alleged combination fails to teach, as detailed *supra* §VII(B)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 3 and 12 fail for at least these same reasons. Petitioner's arguments for claim 3 also fail based on the deficiencies of its arguments with

respect to claim 2, as explained in Section VII(B)(5) above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 3 and 12 would have been rendered obvious the alleged combination of Tsujino, Shui, and Iwasaki.

7. Petitioner Fails to Establish That Claims 4 and 14 Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

See VII(A)(7) supra.

Because claims 4 and 14 ultimately depend from claim 1, they each include all of the limitations that the alleged combination fails to teach, as detailed *supra* §VII(B)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 4 and 14 fail for at least these same reasons. Petitioner's arguments for claim 4 also fail based on the deficiencies of its arguments with respect to claim 2, as explained in Section VII(B)(5) above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 4 and 14 would have been rendered obvious the alleged combination of Tsujino, Shui, and Iwasaki.

8. Petitioner Fails to Establish That Claims 5 and 8 Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

See VII(A)(8) supra.

Because claims 5 and 8 ultimately depend from claim 1, they each include all of the limitations that the alleged combination fails to teach, as detailed *supra* §VII(B)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 5 and 8 fail for at least these same reasons. Petitioner's arguments for claims 5 and 8 also fail based on the deficiencies of its arguments with respect to claim 2, upon which claims 5 and 8 also depend. *See supra* Section VII(B)(5).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 5 and 8 would have been rendered obvious the alleged combination of Tsujino, Shui, and Iwasaki.

9. Petitioner Fails to Establish That Claims 6, 9, 11, 13, and 15 Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

See VII(A)(9) supra.

Because claims 6, 9, 11, 13, and 15 ultimately depend from claim 1, they each include all of the limitations that the alleged combination fails to teach, as detailed *supra* §VII(B)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments

for claims 6, 9, 11, 13, and 15 fail for at least these same reasons. Petitioner's arguments for claims 6 and 9 also fail based on the deficiencies of its arguments with respect to claim 2, upon which claims 6 and 9 also depend. *See supra* Section VII(B)(5).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 6, 9, 11, 13, and 15 would have been rendered obvious the alleged combination of Tsujino, Shui, and Iwasaki.

10. Petitioner Fails to Establish That Claims 7 and 10 Would Have Been Obvious Based on Tsujino in view of Shui and Iwasaki

See VII(A)(10) *supra*.

Because claims 7 and 10 ultimately depend from claim 1, they each include all of the limitations that the alleged combination fails to teach, as detailed *supra* §VII(B)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 7 and 10 fail for at least these same reasons. Petitioner's arguments for claim 7 also fail based on the deficiencies of its arguments with respect to claim 2, upon which claim 7 depends. *See supra* Section VII(B)(5).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 7 and 10 would have been rendered

obvious the alleged combination of Tsujino, Shui, and Iwasaki.

C. Ground 3: Petitioner Fails to Establish That Claims 1-15 Would Have Been Obvious Based on Shui in view of Iwasaki

Petitioner has not shown a reasonable likelihood of prevailing on Ground 3 because the alleged combination of Shui and Iwasaki would not have been obvious to a POSITA and fails to disclose or suggest key features of the '950 Patent's invention, as discussed in detailed below.

1. Petitioner Fails to Establish that a POSITA Would Combine Shui and Iwasaki

Petitioner's assertion that a POSITA would have combined Shui and Iwasaki rests on hindsight, ignoring that these references address distinct problems with fundamentally different solutions. Pet. 49-50. As explained above in Sections VII(A)(1) and VII(B)(1), Shui directed to a focal position detection method that improves autofocus accuracy in high-luminance point light sources, such as nighttime photography. EX1006 at Abstract and ¶¶2-8 and 56-61. Iwasaki is directed to automatic image processing to avoid over saturation of light and dark values, and uses an analyzing calculating section 34 to automatically adjust the exposure correction value and the gradation characteristic data. EX1007 at ¶108.

Although Shui and Iwasaki each perform processes using luminance values, they do so using distinct procedures and without any need for the teachings of the other. Shui uses contrast-detection autofocus for the entire field and detecting the peak focus evaluation position and then evaluating the change in photometric values immediately before and after the peak. Iwasaki is not concerned with autofocus but with avoiding oversaturation by automatically adjusting the exposure correction value and the gradation characteristic data “based on the difference value between the proper exposure value (obtained in S107) and the highest value (obtained in S108) ...” *Id.* at ¶108. Simply because both references use luminance values does not mean that a POSITA would have found it obvious to combine them to achieve the claimed features of the '950 Patent, without some evidence of a reason to do so, which has not been shown. Petitioner asserts that a POSITA would have found it obvious to combine Shui and Iwasaki because “combining these complementary techniques would result in a comprehensive camera system capable of handling both autofocus and exposure control in scenes with challenging lighting conditions.” Pet. at 50. This is clear hindsight.

Petitioner's rationale of addressing “challenging lighting conditions” is already solved by Shui's improved autofocus features, and there is no evidence of a

need to provide additional exposure control processes, as taught by Iwasaki, on top of the autofocus control, except through improper hindsight reasoning. Thus, a POSITA would not have found it obvious to combine Tsujino and Iwasaki to achieve the claims of the '950 Patent, except through the use of improper hindsight.

2. Petitioner Fails to Establish That Claim Element [1a] Would Have Been Obvious Based on Shui in view of Iwasaki

Claim Element [1a] recites that a feature detection unit of the signal processor “detects a position where features of *each pixel of an input picture signal have changed.*” (Emphasis added). The Petition fails to establish this limitation.

For the reasons discussed above in Section VII(B)(2), the alleged combination of Shui and Iwasaki fails to disclose or render obvious Element [1a]. Shui describes jointly using “focus evaluation values and photometric values ... in the entire field from the minimum distance to infinity,” detecting the peak focus evaluation position X_0 , and then evaluating the change in photometric values immediately before and after that peak. EX1006 at ¶7. Shui explains that when the absolute differential $\Delta Y_1 - 2$ between photometric values at positions X_1 and X_2 around X_0 is below an allowed value α , X_0 is accepted as the focal position; if it meets or exceeds α , the system instead identifies the position X_3 where the photometric value is minimum and treats

that as the focal position. *Id.* at ¶¶7-8.

Petitioner alleges that “Shui's detection of positions in the image where the calculated differential meets or exceeds a threshold, directly corresponds to detecting positions where features of pixels have changed, because these calculations identify locations in the image where visual characteristics transition or differ from surrounding pixels.” Pet. at 52 (citing EX1006 at ¶¶56-57). However, Shui does not detect a position where features of each pixel of an input picture signal have changed. As explained above, contrary to the Petition's assertions, detection of the peak focus evaluation position X0, and evaluation of the change in photometric values immediately before and after that peak does not disclose Claim Element [1a]. Shui does not disclose that the locations of the peak and before / after the peak are necessarily different pixels or adjacent pixels. Thus, Shui, either individually or in combination with Iwasaki, fails to disclose or render obvious “a feature detection unit which detects a position where features of each pixel of an input picture signal have changed,” as recited in Element [1a].

The combination of Shui and Iwasaki would not have been obvious to a POSITA, as explained above in Sections VII(B)(1) and VII(C)(1). Even if such a combination was obvious, the alleged combination of Shui and Iwasaki fails to

render obvious a feature detection unit which detects a position where features of each pixel of an input picture signal have changed, as recited in Element [1a], because the combined teachings do not detect features of each pixel that have changed, as explained above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that Claim Element [1a] would have been rendered obvious based on a combination of Shui and Iwasaki.

3. Petitioner Fails to Establish That Claim Element [1b] Would Have Been Obvious Based on Shui in view of Iwasaki

Claim Element [1b] recites that a region creation unit that creates a region “by *removing pixels with the features* from an evaluated value extraction region.” (Emphasis added). The Petition fails to establish this limitation.

For the reasons discussed above in Section VII(B)(3), the alleged combination of Shui and Iwasaki fails to disclose or render obvious Element [1b]. As mentioned, Shui describes that a focus area may be divided into multiple areas for the focal position detection method and the focus evaluation values “for the entire range from the minimum distance to infinity are obtained for each area.” EX1006 at ¶15.

The Petition mischaracterizes this description in Shui as corresponding to the claimed region creation unit which creates a region by removing pixels with the features from an evaluated value extraction region, as recited in Element [1b]. Pet. at 53-54. Indeed, Shui discloses detecting a focal position by excluding certain areas in which the differential between the minimum and maximum photometric values exceeds a threshold (EX1006 at ¶16), whereas the claimed pixels with the changed features are in an evaluated value extraction region and then removed to form the region created by the region creation unit. As explained above, beyond conclusory assertions, there is no evidence how excluding certain areas for focal calculation corresponds to removing pixels from the evaluated value extraction region to form a region created by the region creation unit.

The combination of Shui and Iwasaki would not have been obvious to a POSITA, as explained above in Section VII(C)(1). Even if such a combination was obvious, which it would not have been, the alleged combination of Shui and Iwasaki fails to render obvious removing pixels with the features from an evaluated value extraction region to form a region created by the region creation unit, as recited in Element [1b], because the combined teachings do not perform the act of removing pixels from an evaluated value extraction region to create another region, as

explained above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that Claim Element [1b] would have been rendered obvious based on a combination of Shui and Iwasaki.

4. Petitioner Fails to Establish That Claim Element [1f] Would Have Been Obvious Based on Shui in view of Iwasaki

Claim Element [1f] recites “wherein the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed.” The Petition fails to establish this limitation.

For the reasons discussed above in Section VII(B)(4), the alleged combination of Shui and Iwasaki fails to disclose or render obvious Element [1f]. As discussed above with respect to Claim Elements [1a] and [1b], Shui fails to render obvious detecting pixels with features that have changed and removing those pixels from an evaluated value extraction region to create a region by the region creation unit. Without disclosing or rendering obvious these elements of claim 1, Shui also do not control a processing unit using an evaluated value of a region *from which pixels having an extracted predetermined feature are removed*. The Petition and Dr. Schonfeld's declaration provide nothing more than conclusory statements, as

explained in detail above in Sections VII(B)(2)-(3) and VII(C)(2)-(3).

The combination of Shui and Iwasaki would not have been obvious to a POSITA, as explained above in Section VII(C)(1). Even if such a combination was obvious, which it would not have been, the alleged combination of Shui and Iwasaki fails to render obvious the control unit controls the processing unit by using an evaluated value of a region from which pixels having an extracted predetermined feature are removed, as recited in Element [1f], because the combined teachings do not detect the feature change of pixels and create a region by removing pixels with the features from an evaluated value extraction region, which are then used by a control unit to control a processing unit of a signal processor.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that Claim Element [1f] would have been rendered obvious based on a combination of Shui and Iwasaki.

5. Petitioner Fails to Establish That Claim 2 Would Have Been Obvious Based on Shui in view of Iwasaki

See VII(A)(5) and VII(B)(5) supra.

Because claim 2 depends from claim 1, it includes all of the limitations that the alleged combination of Shui and Iwasaki fail to teach, as detailed *supra*

§VII(C)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's argument for claim 2 fails for at least these same reasons.

In addition, with respect to Claim Element [2a], the alleged combination of Shui and Iwasaki fail to disclose or suggest “a hold unit which holds position information of the detected pixels.” The Petition merely asserts that the fact that Shui disclosing RAM 46 equates to Shui rendering obvious to hold position information of the detected pixels. As acknowledged by Petitioner's unsupported, conclusory statements, there is no disclosure of Shui's RAM 46 holding or storing position information of pixels that have been detected to have features that have changed (*see* Element 1(a)).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claim 2 would have been rendered obvious the alleged combination of Shui and Iwasaki.

6. Petitioner Fails to Establish That Claims 3 and 12 Would Have Been Obvious Based on Shui in view of Iwasaki

See VII(A)(6) and VII(B)(6) *supra*.

Because claims 3 and 12 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Shui and Iwasaki fail to teach,

as detailed *supra* §VII(C)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 3 and 12 fail for at least these same reasons. Petitioner's arguments for claim 3 also fail based on the deficiencies of its arguments with respect to claim 2, as explained in Section VII(C)(5) above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 3 and 12 would have been rendered obvious the alleged combination of Shui and Iwasaki.

7. Petitioner Fails to Establish That Claims 4 and 14 Would Have Been Obvious Based on Shui in view of Iwasaki

See VII(A)(7) and VII(B)(7) *supra*.

Because claims 4 and 14 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Shui and Iwasaki fail to teach, as detailed *supra* §VII(C)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 4 and 14 fail for at least these same reasons. Petitioner's arguments for claim 4 also fail based on the deficiencies of its arguments with respect to claim 2, as explained in Section VII(C)(5) above.

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 4 and 14 would have been rendered

obvious the alleged combination of Shui and Iwasaki.

8. Petitioner Fails to Establish That Claims 5 and 8 Would Have Been Obvious Based on Shui in view of Iwasaki

See VII(A)(8) and VII(B)(8) supra.

Because claims 5 and 8 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Shui and Iwasaki fail to teach, as detailed *supra* §VII(C)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 5 and 8 fail for at least these same reasons. Petitioner's arguments for claims 5 and 8 also fail based on the deficiencies of its arguments with respect to claim 2, upon which claims 5 and 8 also depend. *See supra* Section VII(C)(5).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 5 and 8 would have been rendered obvious the alleged combination of Shui and Iwasaki.

9. Petitioner Fails to Establish That Claims 6, 9, 11, 13, and 15 Would Have Been Obvious Based on Shui in view of Iwasaki

See VII(A)(9) and VII(B)(9) supra.

Because claims 6, 9, 11, 13, and 15 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Shui and Iwasaki fail to

teach, as detailed *supra* §VII(C)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 6, 9, 11, 13, and 15 fail for at least these same reasons. Petitioner's arguments for claims 6 and 9 also fail based on the deficiencies of its arguments with respect to claim 2, upon which claims 6 and 9 also depend. *See supra* Section VII(C)(5).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 6, 9, 11, 13, and 15 would have been rendered obvious the alleged combination of Shui and Iwasaki.

10. Petitioner Fails to Establish That Claims 7 and 10 Would Have Been Obvious Based on Shui in view of Iwasaki

See VII(A)(10) and VII(B)(10) *supra*.

Because claims 7 and 10 ultimately depend from claim 1, they each include all of the limitations that the alleged combination of Shui and Iwasaki fail to teach, as detailed *supra* §VII(C)(1)–(4) (claim limitations [1a], [1b], and [1f]). Petitioner's arguments for claims 7 and 10 fail for at least these same reasons. Petitioner's arguments for claim 7 also fail based on the deficiencies of its arguments with respect to claim 2, upon which claim 7 depends. *See supra* Section VII(C)(5).

For at least the foregoing reasons, Petitioner fails to show a reasonable likelihood of success in establishing that claims 7 and 10 would have been rendered obvious the alleged combination of Shui and Iwasaki.

VIII. CONCLUSION

For at least the foregoing reasons, the Director should deny institution of the Petition.

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Respectfully submitted,

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Case IPR2025-01315
Patent No. 8,471,950
Patent Owner's Preliminary Response

CERTIFICATE OF SERVICE

I hereby certify that on this December 5, 2025, a copy of the attached
PATENT OWNER'S PRELIMINARY RESPONSE was served by electronic
mail to the attorneys of record, at the following addresses:

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Dated: December 5, 2025

Respectfully submitted,

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CERTIFICATION PURSUANT TO 37 C.F.R. § 42.24(d)

Pursuant 37 CFR 42.24(d), the undersigned certifies that this Preliminary Response and complies with the type-volume limitation of 37 CFR § 42.24(a). The word count application of the word processing program used to prepare this Patent Owner's Preliminary Response indicates that the Preliminary Response contains 13,894 words, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

Respectfully submitted,

/ Robert G. Pluta /
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