IN THE UNITED STATES DISTRICT COURT

FOR THE EASTERN DISTRICT OF TEXAS

SHERMAN DIVISION

TEXAS ADVANCED OPTOELECTRONIC SOLUTIONS, INC. Plaintiff, vs. INTERSIL CORPORATION, Defendant.	CIVIL ACTION NO. 4:08-CV-451

CLAIM CONSTRUCTION ORDER

After considering the patent-in-suit, the submissions, and the arguments of counsel at the November 17, 2009 claim construction hearing, the court issues this claim construction order, resolving the disputed claim terms.

I. INTRODUCTION

Plaintiff Texas Advanced Optoelectronic Solutions, Inc., ("TAOS") accuses defendant Intersil Corporation ("Intersil") of infringing claims of United States Patent No. 6,596,981 ("the '981 Patent"), entitled Method and Apparatus for Optical Detector with Special Discrimination. This order resolves the parties' various claim construction disputes.

II. GENERAL PRINCIPLES OF CLAIM CONSTRUCTION

"A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention." *Burke,*

Inc. v. Bruno Indep. Living Aids, Inc., 183 F.3d 1334, 1340 (Fed. Cir. 1999). Claim construction is an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc).

To ascertain the meaning of claims, the court looks to three primary sources: the claims, the specification, and the prosecution history. *Markman*, 52 F.3d at 979. A patent's claims must be read in view of the specification, of which they are a part. *Id*. Under 35 U.S.C. § 112, the specification must contain a written description of the invention that enables one of ordinary skill in the art to make and use the invention. For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. *Markman*, 52 F.3d at 979.

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of the patentee's claims. Otherwise, there would be no need for claims. *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. *Intellicall, Inc. v. Phonometrics*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). And, although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. *Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

The court's claim construction analysis is informed by the Federal Circuit's decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the court set forth several guideposts that courts should follow when construing claims. In particular, the court reiterated that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." 415 F.3d at 1312 (emphasis added) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To that end, the words used in a claim are generally given their ordinary and customary meaning. *Id*. The ordinary and customary meaning of a claim term "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application." *Id*. at 1313.

The primacy of claim terms notwithstanding, *Phillips* made clear that "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular

claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id*. Although the claims themselves may provide guidance as to the meaning of particular terms, those terms are part of "a fully integrated written instrument." *Id*. at 1315 (quoting *Markman*, 52 F.3d at 978). Thus, *Phillips* emphasized the specification as being the primary basis for construing the claims. *Id*. at 1314-17. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction. Consequently, *Phillips* emphasized the important role the specification plays in the claim construction process.

The prosecution history also plays an important role in claim interpretation. The prosecution history helps to demonstrate how the inventor and the PTO understood the patent. *Phillips*, 415 F.3d at 1317. Because the file history, however, "represents an ongoing negotiation between the PTO and the applicant," it may lack the clarity of the specification and thus be less useful in claim construction proceedings. *Id*. Nevertheless, the prosecution history is intrinsic evidence and is relevant to determining how the inventor understood the invention and whether the inventor limited the invention during prosecution by narrowing the scope of the claims. Prosecution disclaimer is typically invoked to limit the meaning of a claim term that would otherwise be read more broadly. *See Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003)("[W]here the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender."). "[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Id*. at 1326. The Federal Circuit has "declined to apply the doctrine of prosecution disclaimer where the alleged disavowal of claim scope is ambiguous." *Id.* at 1324.

Phillips rejected a claim construction approach that sacrificed the intrinsic record in favor of extrinsic evidence, such as dictionary definitions or expert testimony. The *en banc* court condemned the suggestion made by *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002), that a court should discern the ordinary meaning of the claim terms (through dictionaries or otherwise) before resorting to the specification for certain limited purposes. *Id*. at 1319-24. According to *Phillips*, reliance on dictionary definitions at the expense of the specification had the effect of "focus[ing] the inquiry on the abstract meaning of words rather

than on the meaning of the claim terms within the context of the patent." *Id*. at 1321. *Phillips* did not, however, preclude all use of dictionaries in claim construction proceedings. Instead, the court assigned dictionaries a role subordinate to the intrinsic record. *Id*. at 1323-25.

While claim construction is a matter for the court, it need not provide a new definition or rewrite a term, particularly when the court finds the term's plain and ordinary meaning is sufficient. The Federal Circuit addressed this issue in *O2 Micro International Ltd v. Beyond Innovation Technology Co.*, 521 F.3d 1351 (Fed. Cir. 2008). The Federal Circuit stated that the "purpose of claim construction is to 'determin[e] the meaning and scope of the patent claims asserted to be infringed." *Id.* at 1360 (*citing Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc)). The Federal Circuit clarified that "[w]hen the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute." *Id.* (*citing Markman*, 52 F.3d at 979). The Federal Circuit stated that "[a] determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute." *Id.* The Federal Circuit also recognized, however, that "district courts are not (and should not be) required to construe *every* limitation present in a patent's asserted claims." *Id.* (emphasis in original) (*citing Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1349 (Fed. Cir. 2001); *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997)). However, the Federal Circuit held that "[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it." *O2 Micro*, 521 F.3d at 1362. While it is a district court's duty is to construe the claims, part of this duty is to determine the extent which to construction is even necessary. With regard to meaning, where additional language may be unduly limiting, confusing, or redundant, it is in a court's power to determine that no construction is necessary. A court may decline to adopt constructions that violate claim construction doctrine, such as improperly importing limitations, and may still construe terms to have their ordinary meaning. *See id.* at 1360.

A patentee may set out the elements of a claim in a so-called means-plus-function format. 35 U.S.C. § 112, ¶ 6. The patentee may recite in the claim a "means for" achieving a certain function. In exchange for this convenience in claim drafting, the patentee must disclose a

corresponding structure in the specification. *O.I. Corp. v. Tekmar Co.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997).

Construing a means-plus-function limitation involves multiple inquiries. "The first step in construing [a means-plus-function] limitation is a determination of the function of the means-plus-function limitation." *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). When construing the function, the Court "must take great care not to impermissibly limit the function by adopting a function different from that explicitly recited in the claim." *Generation II Orthotics, Inc. v. Med. Tech., Inc.*, 263 F.3d 1356, 1364-65 (Fed. Cir. 2001). Once a court has determined the limitation's function, "the next step is to determine the corresponding structure disclosed in the specification and equivalents thereof." *Medtronic, Inc.* 248 F.3d at 1311. The focus of the "corresponding structure" inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is "clearly linked or associated with the [recited] function." *Id.* If the patentee provides sufficient corresponding structure, then the claim scope encompasses that structure "and its equivalents." Id.; § 112, ¶ 6; *see also Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005). A structure disclosed is only a "corresponding structure" if the "specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Med. Instrumentation & Diagnostics Corp. v. Elekta*, 344 F.3d 1205, 1210 (Fed. Cir. 2003).

With these principles in mind, the court now turns to a discussion of the relevant claim terms.

III. THE '981 PATENT

The patent relates to optical detectors (or photo detectors) formed using semiconductor technologies. The background section contained within the specification describes existing optical detectors as reacting to various bandwidths of light differently than the human eye. For example, incandescent lights emit infrared wavelengths of light, much of which the human eye does not detect. However, typical optical detectors would detect infrared light and thus an optical detector may register a very high brightness even though as perceived by the human eye the amount of light present may be low (because the human eye does not detect infrared light).

Other light sources, such as fluorescent lighting, emit light that more closely matches what the human eye detects.

Thus, the '981 Patent describes a system for identifying the spectral content of the light being detected ("spectral content" being agreed by the parties to mean information relating to the wavelengths of light). Dkt. No. 114-2 at 1. The detector 10 of the '981 Patent can be seen in Figure 1 of the patent. Incident light 18 hits the detector and photons of the light penetrate into the silicon substrate 16 through the gap formed in the opaque layer 22. The photons eventually get absorbed into the substrate and form a carrier 26 within the substrate. The carrier 26 can migrate through the substrate to the wells 24, 14, 12, etc. as shown by the dashed lines of Figure 1. When the carrier reaches the wells, current called photocurrent is generated. '981 Patent at 2:28-36. The amount of photocurrent that is generated is indicative of the amount of incident light. The wavelengths (spectral content) of the light can also be determined by utilizing the knowledge that the depth within the substrate that the photon will travel before it is absorbed and creates a carrier 26 is dependent upon the wavelength of the incident light. '981 Patent at 2:37-55. Further, the relative ratio of current at the wells 24, 14, and 12 will be dependent upon how deep the average carrier 26 is created in the substrate. '981 Patent at 3:5-30. In this manner, comparing the photocurrents at the wells can be used to determine the wavelengths of light incident on the detector. '981 Patent at 3:54-62.

IV. AGREED TERMS

The parties submitted a number of Agreed Constructions in the Joint Claim Construction Chart. Dkt. No. 114. And, at the claim construction hearing, the parties further agreed to the following constructions for previously disputed terms:

Term	**AGREED**
Charge gate MOS diode structures (Claims 5, 32)	Structures in which a potential applied to the gates of the structure establishes the first and second wells Hearing at 130-131.

At least one input of the at least one A/D converter for converting a respective one of the first and second photocurrent into a digital output (Claims 16,43)	At least one input of the at least one A/D converter for changing either the first or second photocurrent into a digital output Hearing at 146.
Establishing a spectral content response (Claim 46)	Establishing a response based upon the wavelength of incident light Hearing at 164-65.
Spectral content response configured to simulate that which would be observed by a human eye (Claim 46)	A response based upon the wavelength of incident light that is configured to simulate what would be observed by the human eye. Hearing at 166-168.
Controlling a backlighting (Claim 55)	Adjusting the level of illumination behind a display screen. Hearing at 168-169.

V. CONSTRUCTION OF DISPUTED TERMS

1. "Monolithic" and "Integrated" Terms (Claims 1, 16, 28, 43, 55)

Term	**TAOS**	**Intersil**
Monolithic optical detector (Claims 1, 28, 55)	Claim 1, 28: No construction required (within preamble) Claim 55: A structure, produced in or on a semiconductor substrate, that detects light. Claim 55 construction agreed to by TAOS at the hearing: A structure that detects light that is formed on or in a single semiconductor substrate	An optical detector formed entirely within or on a single semiconductor substrate.

Integrated with (Claim 16)	Formed with.	Combined physically as well as electrically.
Monolithic integrated circuit (Claims 16, 43)	Electronic circuit formed on or in a common substrate. Construction agreed to by TAOS at the hearing: Electronic circuit formed on or in a single semiconductor substrate	A complete electronic circuit formed on or in a single semiconductor substrate.
Analog to digital converter integrated with said first and second wells and formed as a monolithic integrated circuit (Claims 16, 43)	An analog-to-digital (A/D) converter formed on or in a semiconductor substrate with the first and second wells.	An analog-to-digital (A/D) converter combined physically as well as electrically with said first and second wells and formed as a complete electronic circuit on one semiconductor substrate.

Monolithic Optical Detector – Parties' Positions

With regard to "monolithic optical detector", TAOS asserts that established Federal Circuit precedent holds that preambles are not claim limitations "absent clear reliance" in the prosecution, or in situations where it is necessary to provide antecedent basis for the body of the claims. Thus, TAOS asserts no construction is needed for this term for claims 1 and 28. TAOS asserts that the body of the claims provides a "structurally complete invention" and as such the preamble is not a claim limitation. Dkt. No. 85 at 6-7. TAOS further notes that dependent claim 16 includes "monolithic integrated circuit" in the body and that likewise independent claim 55 recites "monolithic optical detector" in the body, thus indicating by claim differentiation that the preamble is not intended to be included in Claims 1 and 28. Further TAOS argues that claim 28 is a method claim and the structure mentioned in the preamble merely gives context to the method steps.

Intersil asserts that the preamble does more than set forth the purpose of the invention because the claim language demonstrates that all the claim limitations are within the monolithic detector. Dkt. No. 84 at 4-5. Intersil further asserts that the specification is very clear that the invention is directed toward a monolithic optical detector. Dkt. No. 84 at 5. Intersil further relies on the Examiner's Reasons For Allowance which stated that "the prior art fails to disclose or make obvious a monolithic optical detector comprising, in addition to the other recited

features of the claim, a second well in a substrate, proximate the first well, the second well configured to be shielded from incident light and for generating a second photocurrent as a function of the incident light." Dkt. No. 84 at 6 (Citing Notice of Allowability at 2). Intersil asserts that this demonstrates that the Examiner considered "monolithic" to be of critical importance. Intersil rebuts the argument regarding claim differentiation by asserting that claim 16 adds other limitations, not just "monolithic" and that the doctrine of claim differentiation is just a presumption. Dkt. 94 at 5-6. Intersil further argues that because the dependent claims call out "The detector of claim 1", the detector is required to provide antecedent basis in the dependent claims.

With regard to the actual construction of the term "monolithic optical detector," TAOS agreed to the following modified construction at the claim construction hearing: "a structure that detects light that is formed on or in a single semiconductor substrate." Hearing at 23. Intersil objected to the modified construction asserting that "a structure that detects light" is such a broad construction that it would encompass items such as photographic paper, items that Intersil asserts would not be an "optical detector" in the context of the patent. Hearing at 24-25.

Monolithic Optical Detector – Court's Construction

The specification repeatedly describes an apparatus that is an optical detector such as a monolithic optical detector. '981 Patent at 1:44-46, 2:5-11, 2:49-55, 3:30-33, 5:35-39, 5:40-43, 5:50-52, and Figures 1-4. Further, it is stated that the various embodiments can all be provided "on a single monolithic integrated circuit." '981 Patent at 6:32-34. In the context of the specification as a whole, it is clear that the terms "optical detector" and "monolithic" set forth the essential structure of the invention rather than merely stating the field of the invention and that such language provides life and meaning to the claim. *See NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1305-06 (Fed. Cir. 2005), *cert. denied*, ---U.S.---, 126 S.Ct. 1174, 163 L.Ed.2d 1141 (2006). As noted by Intersil, absent construction of the preamble, the claims would be unbounded and could extend to structures well beyond the scope of the '981 Patent specification.

The court finds that the term "monolithic optical detector" forms a portion of the claim that should be construed.

With the modified construction agreed to at the oral hearing, the dispute between the parties as to the actual construction of the term "monolithic optical detector" focuses on the

inclusion of the more generic term "structure" or the recitation of an "optical detector." The claim language itself uses the term "optical detector" and TAOS has not presented sufficient citations in the intrinsic evidence to deviate from such term. Moreover, as Intersil has pointed out, the more generic term "structure" may encompass many structures not contemplated or perhaps even relevant to the disclosure of the '981 Patent.

The court construes "monolithic optical detector" as "an optical detector formed on or in a single semiconductor substrate."

Integrated With – Parties' Positions

TAOS asserts that there is no support for including "physically as well as electrically" within the construction of "integrated with." TAOS asserts that Intersil only relies on extrinsic evidence for Intersil's construction and that the extrinsic evidence is focused on an adjective construction of the term in the context of a type of design, rather than a verb usage of the term as used in claim 16. TAOS asserts that the specification does not provide for the special meaning asserted by Intersil.

Intersil asserts that all the integrated circuits referenced in the specification of the '981 Patent are combined both physically and electrically. Dkt. No. 84 at 19 (citing '981 Patent at 1:11-17, 2:64-3:5, 5:35-39). Intersil also cites an extrinsic evidence dictionary.

Integrated With – Court's Construction

The claim language in question may be found in claim 16 where it is stated that an analog-to-digital converter is "integrated with said first and second wells and formed as a monolithic integrated circuit." As used in the claim, to be "integrated…and formed as a monolithic integrated circuit" implies a use of the term "integrated" in a context of integrated circuits. Such circuits have a physical and electrical combination. Moreover, the specification describes the circuitry being formed in a monolithic integrated circuit, again a context that indicates physical and electrical combination. *See* '981 Patent at 1:11-17, 2:64-3:5, 5:35-39, 5:50-51; 6:33-35; Figure 3. In the context of the intrinsic evidence as a whole, the term "integrated with" is best described as combined physically as well as electrically.

The court construes "integrated with" as "combined physically as well as electrically."

Monolithic Integrated Circuit – Parties' Positions

With regard to the construction of "monolithic integrated circuit," TAOS agreed to the following modified construction at the claim construction hearing: "electronic circuit formed on or in a single semiconductor substrate." Hearing at 43. TAOS contends that Intersil improperly includes "complete" in Intersil's construction. TAOS asserts that the specification does not include a description or explanation of a "complete electronic circuit." Hearing at 45-48. Intersil argues that it does not make sense to argue that the monolithic circuit could be an incomplete circuit as such a circuit would be unworkable. Intersil asserts its construction is consistent with the specification. Dkt. No. 84 at 7-8 (citing '981 Patent at 5:34-39, 6:27-40). Intersil also asserts that TAOS acknowledges that the term has special meaning in the field of semiconductors, thus providing support for Intersil's construction. At the hearing, Intersil cited the Dictionary of Modem Electronics for inclusion of the term "complete" while acknowledging that the IEEE Dictionary did not explicitly include the term complete. Hearing at 49-50.

Monolithic Integrated Circuit – Court's Construction

The parties modified positions are essentially the same except for the inclusion of the term "complete." In both its briefing and at the hearing, Intersil noted that an integrated circuit is "a combination of interconnected circuit elements inseparably associated on or within a continuous substrate." Dkt. No. 84 at 8 (citing IEEE Standard Dictionary of Electrical and Electronic Terms); Hearing at 48. The claim term in question includes "integrated circuit" and Intersil seeks to replace the term "integrated" with the term "complete." However, Intersil has not pointed to sufficient evidence in the specification for such replacement. Furthermore, the dictionary evidence cited by Intersil appears contradictory at best. Intersil's construction may further cause jury confusion as two integrated circuits may operate together to form a "complete circuit." However, Intersil's construction may be interpreted as preventing such construction. Intersil's construction would in effect require another construction of what is meant by the term "complete circuit."

The court construes "monolithic integrated circuit" as "an electronic integrated circuit formed on or in a single semiconductor substrate."

Analog to Digital Converter Integrated With….

At the hearing, the parties acknowledged that the construction of the term "analog to digital converter integrated with said first and second wells and formed as a monolithic integrated circuit" would be dependent upon the court's construction of the terms "integrated with" and "monolithic integrated circuit." Oral Hearing at 51-53.

Consistent with the court's constructions provide above, the court construes "analog to digital converter integrated with said first and second wells and formed as a monolithic integrated circuit" as "an analog-to-digital (A/D) converter combined physically as well as electrically with said first and second wells and formed on or in a single semiconductor substrate."

2. "Exposed to Incident Light" and "Shielded from the Incident Light" (Claims 1, 28, 55)

Term	**TAOS**	**Intersil**
Exposed to incident light (Claims 1, 28, 55)	Receives or is subjected to light, the light including wavelengths in the visible and the non-visible spectrum.	Receives equally all incident light, including wavelengths in both the visible and non-visible parts of the spectrum.
Shielded from the incident light (Claims 1, 28, 55)	Substantially blocks wavelengths in both the visible and the non-visible spectrum.	Blocks all light, including all wavelengths in the visible and non-visible spectrum.

Exposed to Incident Light and Shielded from the Incident Light – Parties' Positions

The primary disputes between the parties relate to the use of "receives" vs. "receives equally all" for the construction of "exposed to incident light" and the use of "substantially blocks" vs. "blocks all" for the construction of "shielded from the incident light."

TAOS asserts that its construction of "exposed" conforms to the ordinary meaning and extrinsic evidence cited by both parties. TAOS objects to Intersil's inclusion of "equally all" as not being supported by the specification. TAOS also asserts that Intersil's construction adds confusion as to what "equally" all incident light means. TAOS argues that Intersil has not "identified any express disclaimer or independent lexicography" in the intrinsic evidence to deviate from the plain meaning. Dkt. 107 at 3 (citing *Omega Engineering, Inc. v. Rayteck Corp.*, 334 F.3rd 1314, 1323 (Fed. Cir. 2009). TAOS contends that because the specification does not provide any special meaning, both terms must be construed according to their plain meaning.

Dkt. 93 at 4-5. Further, TAOS maintains that Intersil's constructions essentially equate "exposed" and "shielded" to the dependent claim 9 terms "transparent" and "opaque" respectively. TAOS cites Federal Circuit case law regarding claim differentiation to argue that construing the independent claim and dependent claim the same is improper. Dkt. 93 at 5-6. TAOS asserts that although the terms "exposed" and "shield" may be contrasting, the terms are not required to have opposite meanings.

With regard to shielding, TAOS contends that the specification states "shielding implies that [the second well is] not directly exposed to incident light." Dkt. 85 at 12 (citing '981 Patent at 3:36-38). TAOS asserts that this language implies that shielding does not require all light to be blocked as the specification says "not *directly* exposed." Thus, TAOS argues that its construction is anchored directly upon the specification. Dkt. 107 at 4. TAOS asserts that the Federal Circuit has found that the inclusion of terms such as "substantially" are not inherently ambiguous and the ultimate evaluation can be left to the finder of fact. Dkt. 107 at 4-5. TAOS further cites to Intersil's own extrinsic evidence as showing that shielding only substantially reduces a particular effect. Dkt. 85 at 12. TAOS asserts that Intersil's construction would only be appropriate if the claim read "entirely" or "completely" shielding.

Intersil contends that the specification refers to the exposed well as the "light diode" and the shielded diode as the "dark diode" thus supporting its constructions. Dkt. 84 at 11 (citing '981 Patent at 3:28-30, 4:1-8, 4:57-59). Intersil further asserts that general dictionary definitions support its construction. Dkt. 84 at 11. Intersil maintains that there is no discussion in the specification suggesting that the exposed well does not receive all wavelengths of incident light and that the patent teaches that light is absorbed in the substrate, not that certain wavelengths of light are not absorbed. Dkt. 94 at 11.

Intersil argues that "shield" must have a meaning the opposite of "exposed." Intersil asserts that the "not directly" language cited by TAOS merely indicates that incident light can get to the shielded diodes indirectly due to the photons that are absorbed in the substrate. Dkt. 106 at 4. Intersil contends that the meanings of "exposed" and "shielded" cannot overlap because the technology described in the '981 Patent would not work with two exposed or two shielded wells. Intersil asserts it is TAOS that is attempting to give special meanings to the two words by changing "shielded" to mean that some light is allowable. With regard to the claim differentiation argument, Intersil asserts that dependent claim 9 adds many limitations and is not

merely adding the terms "transparent" and "opaque" such that claim differentiation is not directly on point. Dkt. 106 at 4.

Exposed to Incident Light and Shielded from the Incident Light – Court's Construction

Intersil has not pointed to sufficient support with the intrinsic record to interpret exposure to light to necessarily require exposure to "all" the light. The claim term in question is merely utilized to describe a first well that is exposed to incident light. As shown in the '981 Patent, the first well 12 is exposed to incident light 18 that passes through oxide layer 20. '981 Patent at 2:18-27, Figure 1. The '981 Patent does not teach that all the incident light must reach the first well. As Intersil has not identified intrinsic evidence that supports a clear disavowal of the ordinary meaning of the term "exposed," the court will not require the additional limitation of "all."

The court construes "exposed to incident light" as "receives or is subjected to incident light including wavelengths of light in the visible and non-visible spectrum."

With regard to "shielded," both parties point to portions of column 3 of the '981 Patent as containing the relevant intrinsic evidence. In particular, TAOS points to the statement that "shielding implies … not directly exposed to the incident light." '981 Patent at 3:36-38. Intersil points to the statement that "if other diodes adjacent to the photodiode are shielded from light, then any photo carriers that the shielded diodes collect will be due to photons absorbed below the photodiode junction." '981 Patent at 3:18-21. Read together, these portions of column 3 support a construction of "shielding" that means blocking all incident light because otherwise "any" photo carriers would not necessarily be due to photons absorbed below the photodiode. Moreover, blocking all light is not inconsistent with "not directly exposed to the incident light." The construction proposed by Intersil is thus the most consistent with the disclosure of the specification.

The court construes "shielded from the incident light" as "blocks all incident light, including all wavelengths of light in both the visible and non-visible spectrum."

3. "Transparent Dielectric Layer" (Claims 9, 36) and "Opaque Layer" (Claims 9, 10, 36, 37)

Term	**TAOS**	**Intersil**
Transparent dielectric layer (Claims 9, 36)	Layer of insulating material that substantially allows light (having visible and non-visible wavelengths) to pass.	A layer of insulating material that allows unimpeded transit of light.
Opaque layer (Claims 9, 10, 36, 37)	Layer of material that blocks light from passing.	A layer of material that no light can pass through.

"Transparent Dielectric Layer" and "Opaque Layer" – Parties' Positions

TAOS asserts that all materials impede the transit of light to some degree (e.g. transmittance and absorbance). TAOS maintains that there are no dielectric layers which allow unimpeded transit of light, thus Intersil's construction is technically incorrect. Dkt. 85 at 18. TAOS notes that the specification teaches the transparent dielectric layer as being "for example an oxide layer." Dkt. 93 at 15 (citing '981 Patent at 2:24-25). TAOS asserts that no oxide layers result in "unimpeded" transit of light. TAOS notes that even glass impedes transit of light. Dkt. 107 at 9-10.

With regard to "opaque," TAOS argues that Intersil's construction is improperly defined in the context of absolutes. TAOS asserts that there is no support for such absolutes within the specification let alone a clear disclaimer of claim scope. Dkt. 107 at 10. TAOS points to the specification statement "layer 22 includes any layer opaque to incident light 18, for example, an opaque conductive layer." Dkt. 107 at 10 (citing '981 Patent at 2:26-29). TAOS asserts that this language indicates that "opaque" does not necessarily mean a layer that blocks all light.

Intersil asserts that a technical dictionary defines "transparent" as "implying clear and unimpeded transit of light." Dkt. 84 at 12. Intersil asserts that TAOS' construction would allow the transparent layer to actually block some light. Intersil contends that transparent must be the opposite of opaque or else one would not know at what point something becomes opaque. Dkt. 94 at 11-12.

With regard to "opaque," Intersil argues that TAOS' definition is vague as to how much light must be blocked and fails to put the public on notice of what is being claimed. Dkt. 84 at 13. Intersil points to a technical dictionary which defines "opaque layer" as "a layer of material that no light can pass through." Dkt. 94 at 14. Intersil asserts that this is consistent with the

specification references to "dark diode." Intersil asserts that TAOS provides no evidence other than the argument that the claim should not be defined in terms of absolutes. Intersil contends that the specification teaches that the opaque layer may be "a conductive layer" such as a metal layer. Dkt. 106 at 6 (citing '981 Patent at 2:25-27). Intersil asserts that such teaching along with the extrinsic evidence indicates a layer through which no light passes.

"Transparent Dielectric Layer" and "Opaque Layer" – Court's Construction

At the oral hearing, Intersil attempted to rebut TAOS' assertion that all oxide layers would impede light in some amount by asserting that the layer could be formed in a manner having holes that the light could pass through unimpeded. Hearing at 92. The specification however does not make mention or suggest in any manner that the opaque layer is formed with holes. Rather, the specification merely describes an oxide layer 20 being located above the second well and shows in the figures a layer that is continuous over the region of the second wells. Intersil's interpretation would thus not even cover the preferred embodiment described within the specification. Such constructions are disfavored. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583-84 (Fed. Cir. 1996) TAOS' construction is consistent with both the specification and an ordinary meaning that one would give to "transparent."

The court construes "transparent dielectric layer" as "layer of insulating material that substantially allows light to pass through."

Unlike the term "transparent," the parties do not seem to dispute that "opaque" materials may have an absolute blocking property. As described above, "shielded" is provided in the disclosed embodiment of the '981 Patent through the use of the opaque layer 22. '981 Patent at 2:18-28, 3:15-38. As noted above, shielding in the specification implies blocking all light. As the opaque layer provides this blocking, the court shall construe "opaque" consistent with the rationale for the construction of "shielded" as described above.

The court construes "opaque" as "a layer of material that blocks all light from passing through."

4. "Generating" (Claims 1, 24, 28, 51, 55)

Term	**TAOS**	**Intersil**
Generating (Claims 1, 24, 28, 51, 55)	Plain meaning: producing.	Producing through the creation of hole-electron pairs by diffusion.

"Generating" – Parties' Positions

At the claim construction hearing, both parties agreed that the term "generating" itself was more appropriate to use than the synonym "producing." Hearing at 106. TAOS asserts that the term "generating" has a straight forward meaning and that nothing in the specification redefines the plain meaning of the term. Further, TAOS asserts that Intersil's construction is technically flawed and does not match the description in the specification. Dkt. 107 at 5 (citing '981 Patent at 2:28-36). In particular, TAOS argues that it is a minority carrier that diffuses and once the minority carrier hits a diode the photocurrent is generated. Hearing at 109; *See* '981 Patent at 2:28-36. TAOS contends that Intersil has not shown any basis to deviate from the presumption in favor of the ordinary meaning and that Intersil's overly complicated construction would not assist the jury.

Intersil asserts that the patent teaches the formation of hole-electron pairs and that when a carrier diffuses through the silicon lattice it can encounter a diode junction which generates photocurrent. Dkt. No. 84 at 21 (citing '981 Patent at 2:29-35, 3:6-13, 3:39-40). Thus, Intersil seeks to include the creation of hole-electron pairs and diffusion in its construction.

"Generating" – Court's Construction

At the claim construction hearing, Intersil acknowledged that the term "generating" was used in claim 1 in relation to both generating a first photocurrent at a first well and generating a second photocurrent at a second well. Hearing at 106-07. Further, Intersil asserted that the manner in which the generation occurred at each well was different. Hearing at 107-108. The claims merely use the same term "generating a first [second] photocurrent as a function of the incident light" for both photocurrents. '981 Patent at claim 1, 28, and 55. The claims themselves provide detail as to the "generating", as it must be "as a function of the incident light." This implies that "generating" itself has its more general plain meaning as such surrounding language would not be needed if the term "generating" already included the particular mechanism of generation described in the '981 Patent. Intersil's construction further appears flawed as it does not match the full description of the mechanism by which currents are generated in the patent. '981 Patent at 2:29-36. Finally, if, as Intersil asserts, different mechanisms are used at the first and second wells, the usage of a common "generating" for both wells within the claims further

supports a plain meaning without the inclusion of a particular mechanism described within the patent.

The court finds that the term "generating" has a plain meaning that does not need construction for the jury.

5. "As a Function of the Incident Light" (Claims 1, 24, 51, 55); "Function of the Incident Light at a First Well" (Claim 28); "Function of the Incident Light at a Second Well" (Claim 28)

Term	**TAOS**	**Intersil**
As a function of the incident light (Claims 1, 24, 51, 55)	Depends on or varies with wavelength(s) and/or intensity of the incident light.	Corresponding to the wavelength and/or intensity of the incident light.
Function of the incident light at a first well (Claim 28)	Depends on or varies with the wavelength(s) and/or intensity of the incident light.	Corresponding to the wavelength and/or intensity of the incident light and the distance between the absorption depth of the carrier and the junction of the first well and the substrate.
Function of the incident light at a second well (Claim 28)	Depends on or varies with the wavelength(s) and/or intensity of the incident light.	Corresponding to the wavelength and/or intensity of the incident light and the distance between the absorption depth of the carrier and the junction of the second well and the substrate.

"Function of the Incident Light" Terms – Parties' Positions

TAOS asserts that the word "function" is better described by "depends on or varies" as compared with Intersil's use of "corresponding." TAOS cites to extrinsic evidence and asserts that "corresponding" is unclear. Dkt. 85 at 14. TAOS also asserts that Intersil is replacing the simple language "at a first [second] well" with a complex construction of the "distance between…" language. TAOS contends that Intersil's construction requires the current to "correspond" to both (1) the wavelength/intensity of the light and (2) the distance. Dkt. 85 at 14-15. TAOS maintains that such a construction is an improper importation of limitations from the specification.

Intersil argues that its construction requires a direct correspondence whereas "depends" suggests other unknown factors may also affect the generation of photocurrents. Intersil asserts that the patent only identifies the photocurrent being dependent upon wavelength and intensity. Dkt. 84 at 21-22 (citing '981 Patent at 2:49-55, 3:49-52, 4:9-17).

With regard to the distance language, Intersil asserts that the claim language requires the current to be a function of the incident light at the first well. Intersil further argues that "in other words, the absorption depth of the carrier corresponds directly to the wavelength or intensity of the incident light." Dkt. 84 at 22. Intersil contends that this is in fact the invention, and it is thus not an improper importation of a limitation. Dkt. 94 at 22-23. Intersil also asserts that TAOS' construction implies that incident light may be at the second well (the shielded well) and that TAOS' construction may be misconstrued by the jury to allow light at the second well. Hearing at 114.

"Function of the Incident Light" Terms – Court's Construction

Claim 1 merely includes the term "function of the incident light" whereas claim 28 adds the language "function of the incident light at a first [second] well." The primary disputes between the parties are "depends on or varies with" versus "corresponding to" for both claims and the addition of the "distance between…" language which Intersil seeks for claim 28. Intersil's proposed "corresponding to" language is flawed in that Intersil's own briefing seems to acknowledge that further construction of "corresponding to" is needed to limit the term to a direct correspondence. Further, the term "corresponding to" does not connote the functional relationship described within the patent between photocurrent and wavelengths as much as the term "depends" and may merely create jury confusion rather than clarity.

With regard to claim 28, which includes the references to the first and second wells, Intersil has not provided sufficient citation in the specification to mandate that the "function of the incident light" language requires an importation of the distance concepts from the specification. As to Intersil's concern regarding an implication that incident light is provided at the second well, the claim language can be understood by evaluating the more complete claim language: "generating a first [second] photocurrent as a function of the incident light at a first [second] well." '981 Patent at claim 28. The patent at multiple points states that photocurrent is generated at the diode junctions (i.e. the well junctions). '981 Patent at 2:34-35; 3:1-5; 3:9-10.

In the context of the patent, which provides for a shielded second well[1], it is clear that the "at the first [second] well" language does not modify the location of the incident light, but rather is descriptive of the location of the photocurrent. The court finds that a consistent construction of the common language within both claims 1 and 28 is appropriate.

The court construes the term "a function of the incident light" as "depends on or varies with the wavelength(s) and/or intensity of the incident light."

6. "Alternating Current (AC) Lighting" (Claims 18, 45)

Term	**TAOS**	**Intersil**
Alternating current (AC) lighting (Claims 18, 45)	Plain meaning: light generated from alternating current. Construction agreed to at Oral Hearing: light generated through the use of alternating current.	Light driven by an AC source in which there are periodic fluctuations in intensity.

"Alternating Current" – Parties' Positions

TAOS contends that the court is not obligated to provide a construction for every term and the plain meaning of terms may be appropriate. Dkt. 85 at 24-26, Dkt. 93 at 20-22. TAOS asserts that there is no requirement in the specification for adding the limitations sought by Intersil. At the claim construction hearing, TAOS agreed to a modified construction of "light generated through the use of alternating current." Hearing at 146.

Intersil argues that the specification indicates that the A/D converter operates over a period of time "to average a ripple in the incident light caused by alternating current (AC) lighting." Dkt. 84 at 29 (citing '981 Patent at 4:66-5:2). Further Intersil asserts that the parties have agreed that the term "integrates… to average ripple" includes a construction that means "averaging out over time fluctuations in intensity." Dkt. 84 at 29. Intersil also maintains that the TAOS construction is technically wrong because light is not generated by the alternating current but by a structure that is powered by alternating current.

[1] Claim 28 also explicitly states "the second well configured to be shielded from the incident light."

"Alternating Current" – Court's Construction

Intersil may be correct that the specification describes one potential problem of alternating current lighting that relates to ripple. However, Intersil has not provided support from the specification that the basic term "alternating current (AC) lighting" mandates the presence of ripple or periodic fluctuations. As to Intersil's assertion that light is not generated by the alternating current but rather by a structure powered by alternating current, the modified construction agreed to by TAOS at the claim construction hearing resolves such issue. Intersil has not presented sufficient evidence in the intrinsic record indicating that the '981 Patent has disavowed the plain meaning of the term.

The court construes "alternating current lighting" as "light generated through the use of alternating current."

7. "Device Parameter" (Claims 21, 48); "Backlight Control Parameter" (Claims 22, 49) and "Color Control Parameter" (Claims 22, 49)

Term	**TAOS**	**Intersil**
Device parameter (Claims 21, 22, 48, 49)	Plain meaning: a characteristic of a device.	A value that corresponds to the measurement of a ratio of the photocurrent generated in response to incident light, for controlling a device (such as a display screen).
Backlight control parameter (Claims 22, 49)	Plain meaning: A parameter for controlling backlight.	A value that varies as a function of the incident light, for controlling the illumination from behind a display screen.
Color control parameter (Claims 22, 49)	Plain meaning: A parameter for controlling color.	A value that varies as a function of the incident light, for controlling color.

"Parameter" Terms – Parties' Positions

TAOS does not independently brief the terms in question, but rather asserts that Federal Circuit precedent does not require all terms to be construed and that the plain meaning of terms that will be understood by a jury may be utilized. Dkt. 85 at 24-26. TAOS further asserts that Intersil is importing limitations from the specification.

Intersil argues that claim 21 includes "controlling a device parameter in response to the indication of spectral content of the incident light." Dkt. 84 at 26. Intersil thus asserts that the last portion of its construction should be included in the court's construction. Intersil's briefing does not fully address the inclusion of the "ratio" concept in device parameter. With regard to the "backlight control parameter" and "color control parameter", Intersil asserts that the specification teaches that such parameters are varied as a function of the incident light. Dkt. 84 at 27 (citing '981 Patent at 6:3-20).

"Parameter" Terms – Court's Construction

The term "device parameter" is included in claims 21 and 48. The terms "backlight control parameter" and "color control parameter" are both included in claims 22 and 49. The claims themselves provide guidance as to the proper construction. In particular, claims 21 and 48 state "controlling a device parameter in response to the indication of spectral content of the incident light." '981 Patent at claims 21, 48. Thus, claim language surrounding the terms in dispute states that the device parameter is controlled in response to the indication of the spectral content. Intersil asserts that this concept should be included within the construction of "device parameter" itself, however, such a construction would render the surrounding language somewhat duplicative and the inclusion of the surrounding language in the claim itself supports TAOS' assertion for a more general reading of the term. Similarly, the specification states "the device parameter may include any parameter of a device controlled in response to the indication of spectral content of the incident light." '981 Patent at 6:3-6. Such language in the specification again matches the language surrounding the term "device parameter" in the claims themselves, again indicating a more general construction of the term "device parameter." As to the inclusion of "ratio," Intersil has not provided sufficient evidence in the intrinsic record to support a finding that device parameters must be limited to the measurement of a ratio. Moreover, the ratio concept is more properly discussed in the context of other claim terms as described below.

Claims 22 and 49 depend from claims 21 and 48 and add the concept that the claimed device parameter includes at least one of the backlight control parameter and the color control parameter. Intersil's constructions seek to add "a value that varies as a function of the incident light." Again, however, it is noted that claims 21 and 48 already state that the device parameter is controlled "in response to the indication of the spectral content of the incident light." Thus, the surrounding claim language itself already addresses the concepts that Intersil seeks in its

construction. The court finds that the claim language itself provides the best description of the claimed concepts.

The court agrees with TAOS' plain meaning construction and construes "device parameter" as "a characteristic of a device." The Court construes "backlight control parameter" as "a parameter for controlling backlight." The Court construes "color control parameter" as "a parameter for controlling color."

8. "Selectively Multiplexing" (Claim 44)

Term	**TAOS**	**Intersil**
Selectively multiplexing (Claim 44)	Choosing the first and the second photocurrents for coupling. Construction agreed to by TOAS at the hearing: Choosing and then transmitting multiple signals either simultaneously or sequentially.	Identifying and transmitting multiple signals, one at a time. Construction agreed to by Intersil at the hearing: Choosing and then transmitting multiple signals one at a time.

"Selectively Multiplexing" – Parties' Positions

At the hearing, the parties agreed to constructions that clarified that the remaining dispute was whether multiplexing allowed (1) transmitting signals either simultaneously or sequentially or (2) required transmitting signals one at a time. Hearing at 161-164.

TAOS asserts that Intersil is attempting to limit multiplexing to providing signals one at a time (sequentially). TAOS contends that Intersil's own extrinsic evidence dictionary definition includes "simultaneous and/or sequential" within the definition of multiplexing. Dkt. 85 at 23. Further, TAOS asserts the dictionary definition cited by Intersil relates to a communication channel, not the act of multiplexing. Dkt. 93 at 18.

Intersil argues that the specification only discusses multiplexers in general and does not explicitly discuss "selective." Intersil points out that dictionaries show that "selective" means "discriminating" which supports Intersil's construction. Intersil asserts that the TAOS construction suggests that the first and second photocurrents are multiplexed together which renders the modifier "selectively" meaningless and superfluous. Dkt. 84 at 19-20, Dkt. 94 at 20-

21. Intersil further asserts that the TAOS construction, which would have both currents transmitted at the same time, is not supported by the specification and contrary to the operation disclosed in the specification.

"Selectively Multiplexing" – Court's Construction

The claim language surrounding "selectively multiplexing" states "selectively multiplexing the first and second photocurrents of the first and second wells, respectively, to an input of the A/D converter." The term "selectively" should be given meaning within the construction. In the context of the claim which describes "selectively multiplexing the first and second photocurrents, respectively," the limitation appears to imply a selection of one or the other photocurrent. If the claim language leaves some ambiguity, looking to the specification provides a clear description of the multiplexing. The specification states "MUX 42 includes inputs IN1, IN2, IN3 indicated by reference numerals 48, 50, and 52 respectively. … Mux 42 is responsive to a selection signal on selection input 56 for coupling one of inputs IN1, IN2, and IN3 to output 54." '981 Patent at 4:37-41. The specification quote above appears to provide clear meaning as to "selective" multiplexing and "respective" in the context of coupling one of the inputs to the output.

The court construes "selectively multiplexing" as "choosing and then transmitting multiple signals, one at a time."

9. "Means… for Determining" (Claims 1, 55)

Term	**TAOS**	**Intersil**
Means … for determining an indication of spectral content of the incident light (Claims 1, 55)	Structure for determining anything indicating a function of the wavelength(s) of the incident light. §112 structure: processing and control unit [46] or controller [72] and their equivalents.	Governed by 35 U.S.C. §112 (6). Function: Measuring a ratio of the first and second photocurrents to infer wavelength information about the incident light. Structure: A processing and control unit 46 in combination with a multiplexer 42 and A/D

		converter 44. See Figure 3.

"Means … for Determining" – Parties' Positions

The parties agree that the term in question is a means plus function term governed by 35 USC §112(6). With regard to the proper function, TAOS asserts that the Federal Circuit case law is voluminous with clear guidance that function limitations from the specification should not be imported to adopt a function different from that explicitly recited in the claims. Dkt. 93 at 10-12, Dkt. 107 at 7-8. TAOS asserts that Intersil's construction imports a limitation from the specification. TAOS further asserts that merely because an embodiment is shown in the specification for utilizing a ratio, such embodiment may not be imported into the claims. Dkt. No. 85 at 16. TAOS also argues that dependent claim 2 specifically includes "wherein said means for determining the indication of spectral content includes determining a ratio…" thus indicating that claim 1 is not limited to determining a ratio. Dkt. 93 at 9. TAOS contends that the specification does not collapse the invention to one embodiment such that the claims must include the disclosed preferred embodiment. "Rather, TAOS maintains that the patent describes the ratio approach as "according to one embodiment." Dkt. 93 at 10 (citing '981 Patent at 3:54-62). Further, TAOS asserts that the patent teaches that the determination may be alternatively made by "arithmetic processing and use of a table look-up." *Id*. (citing '981 Patent at 5:28-34).

TAOS argues that the structure must be limited to the structure from the specification that is clearly linked or associated with the claimed function. TAOS asserts that the means structure is limited to the processing and control unit [46] or the controller 72. TAOS asserts that the inclusion of the A/D converter and multiplexer is improper as both circuits perform functions not related to the determining step but rather related to converting analog signals to digital signals and multiplexing. TAOS contends that there is no requirement that an A/D conversion occurs. Dkt. 93 at 12-13. Moreover, TAOS asserts that dependent claims 16 and 17 introduce the A/D converter and multiplexers, thus indicating that those structures should not be contained in the independent claims.

Intersil argues that the patent discloses just one function for the means plus function term, measuring a ratio. Intersil cites to passages in the specification in which a ratio of the photocurrents is used to determine an indication of the spectral content of the light. Dkt. 84 at 14-15 (citing '981 Patent at 3:24-30, 3:45-53, 3:49-65). Intersil asserts that TAOS has not

provided any construction for the functional language. Intersil further asserts that the patent teaches the use of a ratio as not being an embodiment but rather being the invention. Dkt. 94 at 17.

Intersil maintains that the patent shows one structure for performing the claimed function, the circuitry of Figure 3 with includes a processor in combination with a multiplexer and A/D converter. Dkt. 84 at 16-17. Intersil asserts that the patent does not teach how the processor could work without receiving a digital input from an A/D converter. Dkt. 94 at 17-18. Intersil also argues that the doctrine of claim differentiation is not controlling because claims 16 and 17 add other limitations beyond merely the A/D converter and the multiplexer. Further, Intersil objects that TAOS' construction includes "or controller [72]." Intersil asserts that the controller 72 shown in Figure 4 performs a different function, controlling the backlight of a display. Dkt. 84 at 17 (citing '981 Patent at 5:46-56, 6:20-22). For example, the patent states that the controller 72 "adjusts the color content of the display in response to the indication of spectral content of the ambient light detected by the detector." *Id.* (citing '981 Patent at 6:20-22).

"Means … for Determining" – Court's Construction

The Federal Circuit has provided strong guidance cautioning against deviating from the explicit functional language of a means plus function clause by importing functional limitations from the specification. *Generation II Orthotics, Inc.* 263 F.3d at 1364-65. Even absent this Federal Circuit guidance, Intersil has failed to provide sufficient intrinsic evidence supporting a mandate that "determining" must be limited to a ratio measurement. Intersil relies heavily on the assertion that the use of a ratio based measurement is "the invention." However the claims are drafted in a broader context such as generating the first and second photocurrents and determining the spectral content in response to the photocurrents. '981 Patent at claim 1. Moreover, though the specification describes the ratio embodiment, Intersil has not provided citation to passages that emphasize the ratio mathematics as being "the invention." Further, as noted by TAOS, the specification indicates that more generic "arithmetic processing and use of a table look-up" may be used. '981 Patent at 5:28-34. Finally, TAOS correctly notes that dependent claims are directed toward the ratio approach, providing an additional indication that the independent claims have a broader meaning. Given the totality of the intrinsic record, it does not seem that the intrinsic record as a whole provides a clear indication that the term "determining" should be limited to one of the disclosed embodiments.

The court finds that the function of the "means…for determining" term is "determining an indication of spectral content of the incident light."

The structure that performs the actual "determining" is the processing and control unit 46. '981 Patent at 4:45-56, 5:5-39. It is correct that the multiplexer and A/D converter provide circuitry and functionality to provide the input signals to the processor but such additional circuitry does not perform the actual determination function. The structure of a means plus function term should be limited to the structure that performs the claimed function. *Medtronic, Inc.* 248 F.3d at 1311. Intersil is correct that the controller 72 is unrelated to the determining step since controller 72 is a controller for the backlighting. '981 Patent at 5:50-55, 6:1-22, Figures 3 and 4.

The court finds that the corresponding structure is "a processing and control unit 46 of Figure 3 and its equivalents."

10. "Determines [Determining] an Indication of Spectral Content of the Incident Light" (Claims 24, 28)

Term	**TAOS**	**Intersil**
Determines an indication of spectral content of the incident light (Claim 24)	Plain meaning: determines an indication of spectral content of the incident light.	Measuring a ratio of the first and second photocurrents to infer wavelength information about the incident light.
Determining an indication of spectral content of the incident light (Claim 28)	Plain meaning: determining an indication of spectral content of the incident light.	Measuring a ratio of the first and second photocurrents to infer wavelength information about the incident light.

The "determines …" and "determining…" claim terms are found in claims 24 and 28 respectively. Claim 24 depends from claim 1 (a claim that included the "means for determining" claim) while claim 28 is an independent method claim. The primary dispute between the parties relating to these terms is whether or not the terms are limited to the ratio method of determining as described within the '981 Patent specification. The positions of the parties are generally the same as set out above with regard to the "means for … determining" term. The court has found

that similar language in claim 1 is not so limited and the reasoning described above is equally applicable to the limitations of claims 24 and 28.[2]

The court finds that no further construction other than the claim language itself is needed for "determines an indication of spectral content of the incident light" and "determining an indication of spectral content of the incident light."

11. "Means… for Controlling" (Claim 21)

Term	**TAOS**	**Intersil**
Means… for controlling a device parameter in response to the indication of spectral content of the incident light (Claim 21)	A structure for controlling some characteristic of a device in response to the indication of spectral content of the incident light. §112(6) structure: Controller [72] or its equivalents.	Governed by 35 U.S.C. §112(6). Function: Controlling a device through a value that corresponds to the measurement of a ratio of the photocurrent generated in response to incident light. Structure: Ambient light detector 40 coupled to a controller 72. See Figure 4.

"Means … for Controlling" – Parties' Positions

With regard to the function of the means for controlling term, the parties provide very little argument other than citation to their positions regarding "ratios" as described above with regard to the determining terms.

As to the structure, TAOS asserts that the means for controlling is merely the controller 72. TAOS further asserts that the ambient light detector 40 provides an input to the controller 72 but that the ambient light detector 40 does not control the device parameter. TAOS argues that the construed structure should be limited to the structure that performs the claimed function. Hearing at 205-208. Intersil maintains that the functional language requires the controlling to be

[2] As described above the court finds that independent of the Federal Circuit guidance relating to the function part of means plus function terms, Intersil has failed to provide sufficient intrinsic evidence to mandate the incorporation of specification embodiments in the term "determining."

"in response to the indication of spectral content." Intersil asserts that this necessarily requires the ambient light detector 40 to be included in the means for controlling. Dkt. 84 at 25.

"Means … for Controlling" – Court's Construction

As to the corresponding function, Intersil's "ratio" argument has been discussed above. Further, neither party has presented sufficient reasoning to deviate from the preferred functional language of the claim itself. *See Generation II Orthotics, Inc.* 263 F.3d at 1364-65.

The court finds that the function of the "means…for controlling" term is "controlling a device parameter in response to the indication of spectral content of the incident light."

As to the structure**,** the claim language says "means, coupled to said determining means, for controlling a device parameter in response to the indication of the spectral content of the incident light." The parties agree that the determining means includes at least the processor 46 of the ambient light detector 40. The "coupled to" language appears to refer to the coupling such as shown in Figure 4 wherein the controller 72 is coupled to the ambient light detector 40. Such language of the claim itself thus seems to imply that the controlling means is separate from the ambient light detector 40. Intersil appears to argue that the "responsive" language requires the controller to include the processor that directly receives the photocurrent. However, the specification states that:

> Ambient light detector 40 provides an indication of the spectral content of the incident light 18 to controller 72. In one embodiment, controller 72 includes a backlight controller, responsive to the indication of spectral content of the incident light 18 for controlling a backlighting of display 74.

'981 Patent at 5:51-56. Thus the specification describes the controller 72 as controlling the device parameter in response to the indication of the spectral content. As such, the structure that corresponds to the claimed function is the controller 72.

The court finds that the corresponding structure of the "means…for controlling" is "a controller 72 of Figure 4 and its equivalents."

12. "Well" (Claims 1, 5, 6, 9, 16, 17, 24, 25, 26, 28, 32, 33, 36, 43, 51, 52, 53, 55)

Term	**TAOS**	**Intersil**
Well (Claims 1, 5, 6, 9, 16, 17, 24, 25, 26, 28, 32, 33, 36, 43, 51, 52, 53, 55)	A region (one or more) of a first type within a substrate region of a second type that forms a junction there between.	A region that is made up of a material of a different conductivity type from that of the surrounding material where the interface forms a junction.

"Well" – Parties' Positions

Although inadvertently omitted from the parties' Joint Claim Construction Chart [de #114] as a disputed claim term, the claim term "well" is argued in the Plaintiff's opening brief and in the Defendant's response. Further, the parties requested the court to construe the term at the claim construction hearing. The parties acknowledge that their constructions are not significantly different and provided minimal briefing on the dispute. Hearing at 211-212. TAOS objects to Intersil's inclusion of the term "interface" as lacking support in the specification. Dkt. No. 85 at 9-10. Intersil asserts that a junction between two different substances must be formed at the interface of those substances. Dkt. No. 94 at 15.

"Well" – Court's Construction

The term "interface" is not found in the '981 Patent. The '981 Patent does repeatedly refer to the boundary between the well 12 and the substrate 16 or the well 14 and the substrate 16 as the "junction." '981 Patent at 2:33-34; 2:57-3:5; 3:6-8; 3:20; 3:40. The inclusion of an additional term "interface" that is not found within the patent and that may in itself need construction should be avoided. Intersil has not brought forth sufficient evidence in the intrinsic record to support such additional language. The boundary between the two types of material is described in the specification as the junction and such terminology should be understandable to the jury.

The court prefers TAOS' proposed construction and construes "well" as "a region of a first type within a substrate region of a second type that forms a junction there between."

CONCLUSION

Based on the foregoing, the court construes the disputed claim terms of the '981 Patent as set forth above.

IT IS SO ORDERED.

SIGNED this the 10th day of June, 2013.

Richard A. Schell

RICHARD A. SCHELL
UNITED STATES DISTRICT JUDGE