
**INNOVATIVE DISPLAY TECHNOLOGIES LLC's
EXHIBIT 2002**

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MERCEDES-BENZ USA, LLC and
MERCEDES-BENZ U.S. INTERNATIONAL, INC.,
Petitioners,

v.

INNOVATIVE DISPLAY TECHNOLOGIES LLC,
Patent Owner.

Case IPR2015-00361
U.S. Patent No. 6,755,547

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

INNOVATIVE DISPLAY
TECHNOLOGIES LLC

v.

ACER INC., et al.

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CASE NO. 2:13-CV-522-JRG
(LEAD CASE)

CLAIM CONSTRUCTION
MEMORANDUM AND ORDER

On July 30, 2014, the Court held a hearing to determine the proper construction of the disputed claim terms in United States Patents No. 6,755,547, 7,300,194, 7,384,177, 7,404,660, 7,434,974, 7,537,370, and 8,215,816. After considering the arguments made by the parties at the hearing and in the parties' claim construction briefing (Dkt. Nos. 69, 75, and 82),¹ the Court issues this Claim Construction Memorandum and Order.

¹ Citations to documents (such as the parties' briefs and exhibits) in this Claim Construction Memorandum and Order refer to the page numbers of the original documents rather than the page numbers assigned by the Court's electronic docket unless otherwise indicated. Defendants are Acer Inc., Acer America Corp., Huawei Device USA Inc., Huawei Technologies Co., Ltd., Huawei Investment and Holding Co. Ltd., Microsoft Corp., Blackberry Ltd., Blackberry Corp., Dell Inc., and Hewlett-Packard Co.

Table of Contents

BACKGROUND	3
LEGAL PRINCIPLES	4
THE PARTIES’ STIPULATED TERMS.....	6
CONSTRUCTION OF DISPUTED TERMS.....	6
A. “pattern of deformities” and “pattern of light extracting deformities”	7
B. “continuous side walls”	11
C. “transition region”	18
D. “at least some of the light extracting deformities on or in one of the sides are of a different type than the light extracting deformities on or in the other side of the panel member”	23
E. “an air gap therebetween” and “an air gap between the film, sheet, plate or substrate and the panel member”	30
F. “desired light output,” “desired light output distribution,” “desired light output distribution or effect,” and “desired light output color or uniformity”	36
G. “predetermined”	38
H. “posts, tabs, or other structural features that provide a mount”	42
I. “well defined optical elements or deformities” and “optical elements or deformities of well defined shape”	43
J. “a pattern of deformities on one side of the sheet or film having a width and length that is quite small in relation to the width and length of the sheet or film”	47
K. “pass through a liquid crystal display with low loss”	51
L. “to [suit/fit] a particular application”	54
CONCLUSION	57
APPENDIX A.....	58

BACKGROUND

Plaintiff brings suit alleging infringement of United States Patents No. 6,755,547 (“the ‘547 Patent”), 7,300,194 (“the ‘194 Patent”), 7,384,177 (“the ‘177 Patent”), 7,404,660 (“the ‘660 Patent”), 7,434,974 (“the ‘974 Patent”), 7,537,370 (“the ‘370 Patent”), and 8,215,816 (“the ‘816 Patent”). All seven of the patents-in-suit are titled “Light Emitting Panel Assemblies” and relate to backlighting for liquid crystal displays (“LCDs”).

The Abstract of the ‘547 Patent is generally representative and states:

Light emitting panel assemblies include a sheet, film or plate overlying a light emitting member. The sheet, film or plate has a pattern of deformities on one or both sides that may vary or be random in size, shape or geometry, placement, index of refraction, density, angle, depth, height and type for controlling the light output distribution to suit a particular application. Also the sheet, film or plate may have a coating or surface treatment for causing the light to pass through a liquid crystal display with low loss.

All of the patents-in-suit claim priority to a common ancestor patent and bear an earliest priority date of June 27, 1995. The parties submit, at least for purposes of the present claim construction proceedings, that the patents-in-suit share a common written description and figures. Dkt. No. 69 at 1; Dkt. No. 75 at 1. For convenience, this Claim Construction Memorandum and Order refers to the specification of only the ‘547 Patent unless otherwise indicated.

Finally, although Plaintiff submitted an expert declaration with its opening claim construction brief (*see* Dkt. No. 69, Ex. B, 6/16/2014 Declaration of Kenneth I. Werner), the Court granted Defendants’ motion to strike that expert declaration. *See* Dkt. No. 85, 7/11/2014 Order. Therefore, in construing the disputed terms, the Court does not consider the expert declaration.

LEGAL PRINCIPLES

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See id.* at 1313; *see also C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312-13; *accord Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term’s context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can aid in determining the claim’s meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314-15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* at 1315 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis.

Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); accord *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor’s lexicography governs. *Id.* The specification may also resolve the meaning of ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); accord *Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”). “[T]he prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance.” *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317

(citations and internal quotation marks omitted). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.*

THE PARTIES' STIPULATED TERMS

The parties have reached agreement on constructions for certain terms, as stated in their May 5, 2014 P.R. 4-3 Joint Claim Construction and Prehearing Statement (Dkt. No. 61), their briefing, and their July 14, 2014 P.R. 4-5(d) Joint Claim Construction Chart (Dkt. No. 89). The parties' agreements are set forth in Appendix A to this Claim Construction Memorandum and Order.

CONSTRUCTION OF DISPUTED TERMS

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with preliminary constructions for some of the disputed terms with the aim of focusing the parties' arguments and facilitating discussion as to those terms. Those preliminary constructions are set forth below, within the discussion for each term as to which the Court provided a preliminary construction.

A. “pattern of deformities” and “pattern of light extracting deformities”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“a pattern of deformities that can be an ordinary pattern, random placement pattern, or a variable pattern” ² Alternatively: “a pattern of deformities, which may include a random placement pattern or a variable pattern”	Plain and ordinary meaning (using the agreed definition of “deformities”)

Dkt. No. 69 at 5; Dkt. No. 75 at 2; Dkt. No. 82 at 1; Dkt. No. 86 at 3. The parties submit that the first of these disputed terms appears in Claim 1 of the ’547 Patent and Claims 1 and 33 of the ’660 Patent. Dkt. No. 61 at 3. The parties further submit that the second of these disputed terms appears in Claims 1, 7 and 13 of the ’974 Patent, Claims 1, 13, 29 and 47 of the ’370 Patent, and Claim 1 of the ’816 Patent. *Id.* at 9.

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with its preliminary proposal that these disputed terms mean: “a pattern of deformities, which may include a random placement pattern or a variable pattern.”

(1) The Parties’ Positions

Plaintiff argues that “Defendants’ argument for ‘plain and ordinary’ meaning is an attempt [to] exclude certain ‘patterns of deformities’ specifically described in the preferred embodiments of the specification,” such as “variable patterns” and “random placement patterns.” Dkt. No. 69 at 6. Plaintiff also cites dependent Claim 19 of the ’547 Patent, quoted below. *Id.* at 7.

² Plaintiff previously proposed that “pattern of deformities” means “an arrangement or placement of deformities” and that “pattern of light extracting deformities” means “an arrangement or placement of light extracting deformities.” Dkt. No. 61 at 3 & 9.

Defendants respond that because the parties agree on the meaning of “deformities” and because “[p]attern’ is not . . . a term of art, . . . construing this common word would not help clarify its meaning to the jury.” Dkt. No. 75 at 2. Defendants argue that Plaintiff’s proposal “does not promote clarity because it requires a pattern of deformities to be one of three distinct things,” which are each set forth using the word “pattern” and “without explaining what any of these three terms mean or what the difference between them is.” *Id.* at 3-4.

Plaintiff replies that its proposal of the phrase “ordinary pattern” is readily understandable but, alternatively, Plaintiff proposes construing the disputed terms to mean “a pattern of deformities, which may include a random placement pattern, or a variable pattern.” Dkt. No. 82 at 1. Plaintiff further argues that “random placement pattern” and “variable pattern” will be readily understandable to a jury, particularly when “guided by expert testimony.” *Id.*

(2) Analysis

Claim 1 of the ‘547 Patent is representative and recites (formatting modified; emphasis added):

1. A backlight assembly comprising
 - a light emitting member having at least one light emitting area that emits light that is internally reflected within the light emitting member,
 - a separate transparent sheet or film overlying the light emitting area with an air gap therebetween,
 - a *pattern of deformities* on one side of the sheet or film having a width and length that is quite small in relation to the width and length of the sheet or film,
 - the deformities varying at different locations on the sheet or film to direct the light that is emitted by the[] light emitting member in different directions to produce a desired light output distribution such that the light will pass through a liquid crystal display with low loss.

The parties have agreed that the term “deformities” means “any change in the shape or geometry of a surface and/or coating or surface treatment that causes a portion of the light to be

emitted.” Dkt. No. 61 at 2. As to the significance of the word “pattern,” the specification discloses:

In accordance with another aspect of the invention, the light emitting panel members include a *pattern of light extracting deformities* or disruptions which provide a desired light output distribution from the panel members by changing the angle of refraction of a portion of the light from one or more light output areas of the panel members.

* * *

FIG. 4a is an enlarged plan view of a portion of a light output area of a panel assembly showing one form of *pattern of light extracting deformities* on the light output area.

* * *

FIG. 4a schematically shows one such light surface area 20 on which a *pattern of light extracting deformities or disruptions* 21 is provided. As used herein, the term deformities or disruptions are [sic] used interchangeably to mean any change in the shape or geometry of the panel surface and/or coating or surface treatment that causes a portion of the light to be emitted. The *pattern of light extracting deformities* 21 shown in FIG. 4a includes a *variable pattern* which breaks up the light rays such that the internal angle of reflection of a portion of the light rays will be great enough to cause the light rays either to be emitted out of the panel through the side or sides on which the light extracting deformities 21 are provided or reflected back through the panel and emitted out the other side.

* * *

Additionally, the deformities may vary in shape and/or size along the length and/or width of the panel members. Also, a *random placement pattern* of the deformities may be utilized throughout the length and/or width of the panel members.

‘547 Patent at 1:49-54, 2:18-20, 4:40-53 & 5:51-55 (emphasis modified). Figure 4a of the patents-in-suit is reproduced here (modified by shrinking the label “Fig. 4a” and by removing an overlapping portion of Fig. 4d):

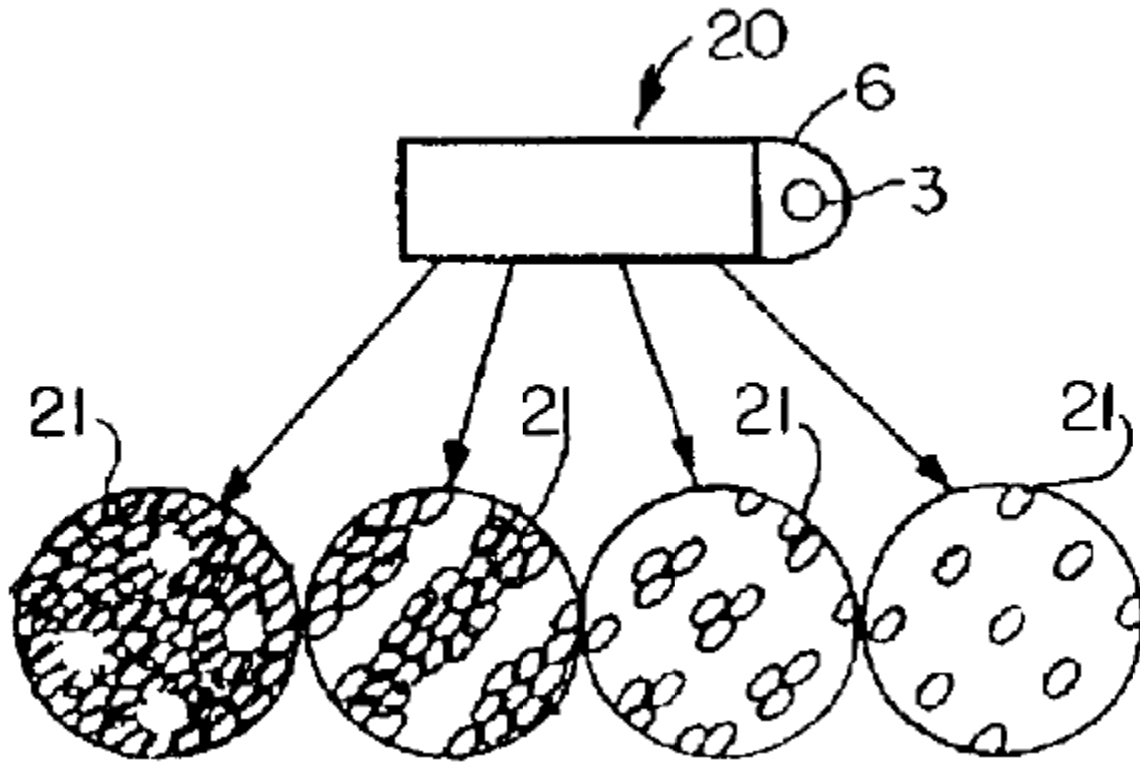


FIG. 4a

To whatever extent Defendants’ proposal of “plain meaning” suggests that a “pattern” cannot vary or cannot be random, any such suggestion is hereby expressly rejected, particularly in light of the disclosure of Fig. 4a as illustrating a “pattern.” ‘547 Patent at 4:40-53; see *Vitronics*, 90 F.3d at 1582-83 (noting that a claim interpretation in which the only embodiment or a preferred embodiment “would not fall within the scope of the patent claim . . . is rarely, if ever, correct and would require highly persuasive evidentiary support”). Further, Claim 19 of the ‘547 Patent, which depends from Claim 1 (quoted above), recites (emphasis added): “The assembly of claim 1 wherein the deformities *randomly vary* in placement on the sheet or film.”

Clarification is nonetheless warranted to explain that a “pattern” in the patents-in-suit can include “random placement.” Because this meaning is seemingly at odds with the ordinary, everyday meaning of the word “pattern,” construction is appropriate. See *Power-One, Inc. v.*

Artesyn Techs., Inc., 599 F.3d 1343, 1348 (Fed. Cir. 2010) (“The terms, as construed by the court, must ensure that the jury fully understands the court’s claim construction rulings and what the patentee covered by the claims.”) (citation and internal quotation marks omitted).

At the July 30, 2014 hearing, Defendants raised a concern that Plaintiff’s alternative proposed construction might leave the finder of fact with an impression that a “pattern of deformities” *must* be either a random placement pattern or a variable pattern. Instead, Defendants urged, the Court should construe the disputed terms to have their plain and ordinary meaning, and the Court could explain in its analysis that the disputed terms encompass random placement patterns and variable patterns. Plaintiff maintained that a construction of the disputed terms would be clearer. Ultimately, both sides were amenable to a construction conveying that the disputed terms include, but are not limited to, random placement patterns and variable patterns.

The Court accordingly hereby construes **“pattern of deformities”** and **“pattern of light extracting deformities”** to mean **“a pattern of deformities, including, but not limited to, a random placement pattern or a variable pattern.”**

B. “continuous side walls”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning In the alternative only, if the Court determines that this term should be construed: “side walls that completely surround” ³	“uninterrupted walls that are free of breaks on the side of the tray”

³ Plaintiff previously proposed only “side walls that completely surround,” without any proposal of plain and ordinary meaning. Dkt. No. 61 at 10.

Dkt. No. 69 at 8; Dkt. No. 75 at 5. The parties submit that this disputed term appears in Claims 1 and 15 of the '177 Patent. Dkt. No. 61 at 10.

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with its preliminary proposal that this disputed term has its plain meaning.

(1) The Parties' Positions

Plaintiff argues that Defendants are attempting to read in limitations from the preferred embodiments. Dkt. No. 69 at 8. Plaintiff also argues that Defendants' proposed reference to "the side of the tray" "adds even more confusion to the term." *Id.* at 9. Plaintiff urges that the plain meaning of this disputed term is clear, particularly in light of surrounding claim language reciting that the continuous side walls "form a hollow cavity or recess completely surrounded by the side walls." *Id.*

Defendants respond that "[i]f the reflective walls are not continuous, *i.e.*, have interruptions or gaps, light can escape the assembly, increasing the amount of light lost." Dkt. No. 75 at 6. Defendants conclude that their proposal "is true to the purpose of the side walls and the intrinsic evidence," such as the illustration of uninterrupted side walls in Figure 6 of the patents-in-suit. *Id.* Defendants also submit that during prosecution, when the patentee added the term "continuous side walls" to the claims, the patentee distinguished the "Kitazawa" reference as disclosing side walls that were interrupted or broken by indentations. *Id.* at 7. Further, Defendants cite an extrinsic dictionary definition of "continuous," quoted below. *Id.* Finally, Defendants argue that because Plaintiff's alternative proposal of "that completely surround" "is already addressed by a handful of words later in the claim," Plaintiff's proposal improperly reads out the word "continuous." *Id.*

Plaintiff replies that even in Figure 6 of the patents-in-suit, cited by Defendants, “the continuous side walls are interrupted by secondary reflector 38, yet still completely surround cavity 36.” Dkt. No. 82 at 3. Plaintiff also argues: “At most, the prosecution history merely confirms that element 12 [in Kitazawa] is not a tray and that even so, its walls do not form a completely-surrounded, hollow cavity. That statement does not equate to a construction that requires a tray with ‘uninterrupted walls’ ‘that are free of breaks.’” *Id.* at 4.

(2) Analysis

Claim 1 of the ‘177 Patent is representative and recites (formatting modified; emphasis added):

1. A light emitting assembly comprising
 - a tray having a back wall and *continuous side walls* that form a hollow cavity or recess completely surrounded by the side walls,
 - at least one light source located, mounted or positioned in the cavity or recess, and
 - at least one sheet, film or substrate overlying the assembly for controlling the light emitted from the assembly to fit a particular application,
 - wherein the tray acts as at least one of a back, side edge, and end edge reflector and has one or more secondary flat, angled, faceted or curved reflective or refractive surfaces to redirect at least a portion of the light emitted by the light source in a predetermined manner within the cavity or recess.

The Summary of the Invention states:

In accordance with another aspect of the invention, the panel assemblies may include reflective or refractive surfaces for changing the path of a portion of the light, emitted from the light source, that would not normally enter the panel members at an acceptable angle that allows the light to remain in the panel members for a longer period of time and/or increase the efficiency of the panel members.

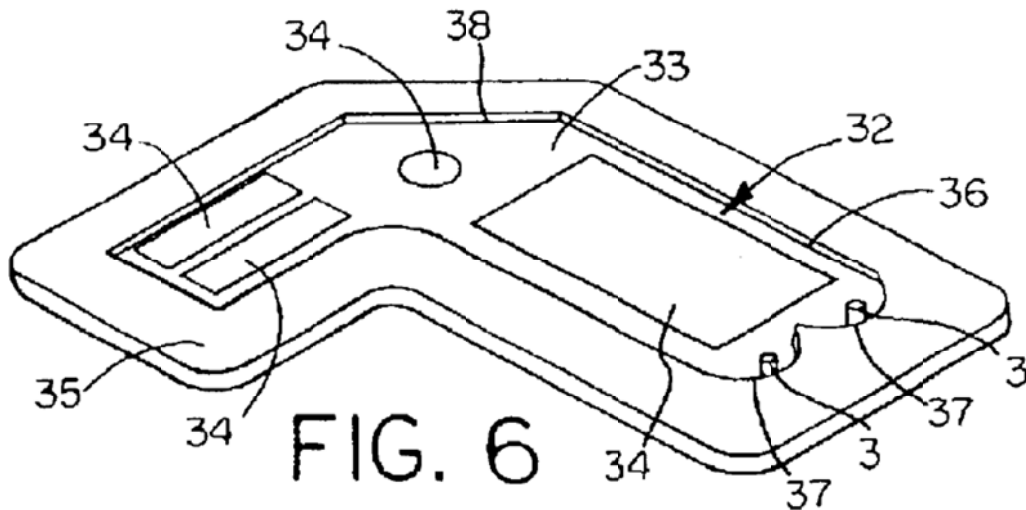
‘547 Patent at 1:41-47. The specification further discloses the desirability of reflecting or refracting light that would otherwise be lost:

FIG. 2 shows another form of light emitting panel assembly 5 in accordance with this invention including a panel light transition area 6 at one end of the light emitting panel 7 with *sides 8, 9 around and behind the light source 3* shaped to

more efficiently reflect and/or refract and focus the light emitted from the light source 3 that impinges on these surfaces back through the light transition area 6 at an acceptable angle for entering the light input surface 18 at one end of the light emitting panel 7.

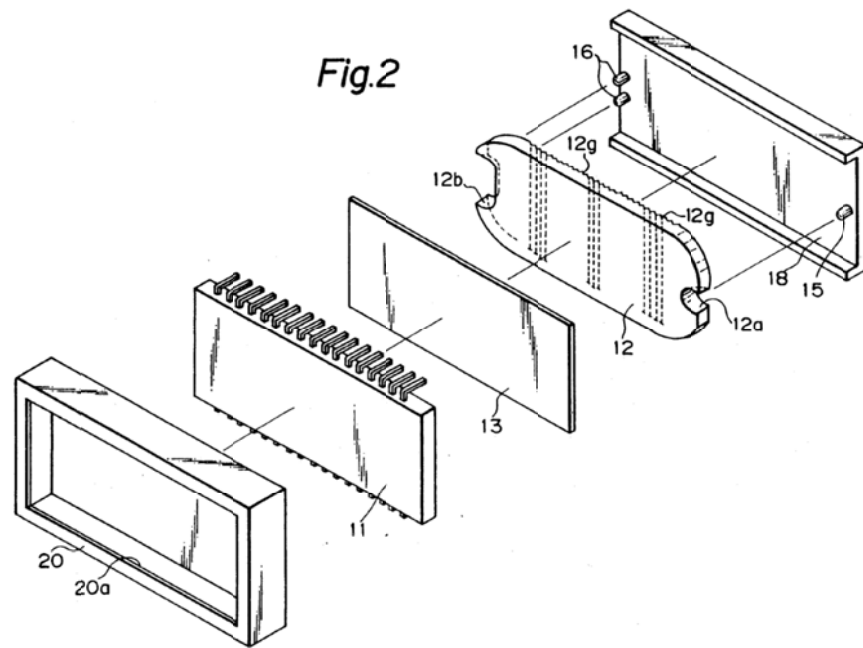
Id. at 3:21-29 (emphasis added). This objective of increased efficiency does not, however, compel interpreting “continuous” as requiring uninterrupted side walls. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 908 (Fed. Cir. 2004) (“The fact that a patent asserts that an invention achieves several objectives does not require that each of the claims be construed as limited to structures that are capable of achieving all of the objectives.”).

Defendants have cited Figure 6 of the patents-in-suit as illustrating uninterrupted side walls, as formed by “tray 35 having a cavity or recess 36.” ‘547 Patent at 6:66. Figure 6 is reproduced here:



Although this illustration may be helpful in understanding the claimed inventions, “patent coverage is not necessarily limited to inventions that look like the ones in the figures. To hold otherwise would be to import limitations [i]nto the claim[s] from the specification, which is fraught with danger.” *MBO Labs. Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007).

As for the prosecution history, the patentee added the term “continuous side walls,” as well as the phrase “completely surrounded by the side walls,” in response to a rejection based on United States Patent No. 5,070,431 (“Kitazawa”). See Dkt. No. 75, Ex. H, 1/22/2008 Reply to Office Action of October 3, 2007, at 2 (p. 56 of 94 of Ex. H). The patentee stated: “[I]t is respectfully submitted that the so-called tray 12 of Kitazawa does not have a back wall and continuous side walls that form a hollow cavity or recess completely surrounded by the side walls in which at least one light source is located, mounted or positioned as recited in claims 1 and 16 as amended.” *Id.* at 8 (p. 62 of 94 of Ex. H). Figure 2 of Kitazawa is reproduced here:



Because the “light guide plate 12” of Kitazawa (see Kitazawa at 2:27-3:45) includes “recesses 12a and 12b” (see *id.* at 3:15-20) that are illustrated as being completely open-ended, the patentee’s statements distinguishing Kitazawa cannot be fairly read as requiring that “continuous” side walls must be uninterrupted, as Defendants here propose. See *Omega Eng’g v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003) (“As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic

evidence and protects the public's reliance on *definitive* statements made during prosecution.") (emphasis added); *see also id.* at 1325-26 ("[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both *clear and unmistakable*") (emphasis added).

As to extrinsic evidence, Defendants have cited a dictionary definition of "continuous" as meaning: "Uninterrupted in time, sequence, substance, or extent." Dkt. No. 75, Ex. I, *The American Heritage Dictionary of the English Language* 408 (3d ed. 1996). The same dictionary, however, includes another definition of "continuous" as meaning: "Attached together in *repeated units*: [e.g.,] a continuous form fed into a printer." *Id.* (emphasis modified). Presumably, units could still be "repeated" even if they included openings. *See id.* Further, "heavy reliance on the dictionary divorced from the intrinsic evidence risks transforming the meaning of the claim term to the artisan into the meaning of the term in the abstract, out of its particular context, which is the specification." *Phillips*, 415 F.3d at 1321.

In sum, nothing in the specification, prosecution history, or extrinsic evidence demands an "uninterrupted" limitation or a "free of breaks" limitation such as Defendants have proposed.

At the July 30, 2014 hearing, Defendants further urged that the patentee's use of "continuous," as a limitation separate from the phrase "completely surrounded," means that if the side walls are made up of separate segments, then the side walls are not continuous, even if the segments are in contact with one another. Defendants submitted that only if such segments were bonded or glued together would the side walls be "continuous." Plaintiff responded that the claims recite no "one piece" limitation. On balance, issues such as whether the side walls could be composed of segments and, if so, whether such segments must be bonded or fused, are ultimate factual issues that must be evaluated with reference to particular accused

instrumentalities. In other words, Defendants’ arguments about segmentation and bonding relate to factual issues of infringement rather than legal issues for claim construction. *See PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998) (noting that “the task of determining whether the construed claim reads on the accused product is for the finder of fact”).

Finally, at the July 30, 2014 hearing, Plaintiff argued that Defendants’ proposal of the phrase “on the side of the tray” is unclear. Defendants responded that this phrase was an effort to define “side walls.” Defendants were amenable to withdrawing this phrase, thus submitting that the constituent term “side walls” does not require construction.

For all of these reasons, Defendants’ proposed construction is hereby expressly rejected, and no further construction is necessary. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.”); *see also O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“[D]istrict courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.”); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) (“Unlike *O2 Micro*, where the court failed to resolve the parties’ quarrel, the district court rejected Defendants’ construction.”).

The Court accordingly hereby construes “**continuous side walls**” to have its **plain meaning**.

C. “transition region”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning In the alternative only, if the Court determines that this term should be construed: “an area used to make the transition from the light source to the light emitting area of the panel member [’370 patent] / optical conductor [’660 patent]”	“a region that spreads and transmits light”

Dkt. No. 69 at 10; Dkt. No. 75 at 8. The parties submit that this disputed term appears in Claims 1, 3, 10, and 33 of the ‘660 Patent and Claims 13 and 47 of the ‘370 Patent. Dkt. No. 61 at 15.

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with its preliminary proposal that this disputed term means: “a region that transmits light.”

(1) The Parties’ Positions

Plaintiff argues that “[r]equiring that the ‘transition region’ both spread and transmit light is an apparent attempt to read a limitation from the abstract of the ‘660 patent into the claims.” Dkt. No. 69 at 10. Plaintiff also argues claim differentiation as to Claim 2 of the ‘660 Patent, quoted below. *Id.* at 11.

Defendants respond that “[w]hereas Defendants’ construction tells the jury *what* the transition region is, Plaintiff’s construction merely states *where* the transition region is,” even though the claim language already recites the location of the transition region. Dkt. No. 75 at 9. Defendants also submit that “transition region” appears in the patents-in-suit only once, in the Abstract of the ‘660 Patent. *Id.* at 8. Further, Defendants argue that Plaintiff’s alternative proposed construction is unhelpful because it uses the word “transition,” which is the term in

dispute. *Id.* at 10. Finally, Defendants argue that Plaintiff's claim differentiation argument fails "because 'configured to' [in Claim 2 of the '660 Patent], like all claim terms, must have meaning, making claim 2 distinct from Defendants' construction and thereby differentiating the two claims." *Id.*

Plaintiff replies that claim differentiation applies because the recital of "configured to" in Claim 2 is indistinguishable from Defendants' proposal of the word "that." Dkt. No. 82 at 5. Plaintiff also argues that Defendants' proposal is improper because it reads a use limitation into apparatus claims. *Id.* at 4-5.

At the July 30, 2014 hearing, Defendants responded that because they are not proposing that the transition region must actively do anything, Plaintiff's concern regarding reading in a use limitation is unfounded. Plaintiff nonetheless submitted that if Court is inclined to construe the term, then the term should be construed as a region "capable of" transmitting light or "configured to" transmit light.

Finally, Defendants also reiterated their argument that the phrase "configured to" in Claim 2 differentiates that claim from Claim 1. Defendants explained that because light naturally spreads as it travels, the phrase "configured to" refers to *increasing* the spreading of light beyond what would occur normally.

(2) Analysis

Plaintiff has argued claim differentiation as between Claims 1 and 2 of the '660 Patent, which recite (emphasis added):

1. A light emitting panel assembly comprising:
 - a generally planar optical conductor having at least one input edge with a greater cross-sectional width than thickness; and
 - a plurality of light sources configured to generate light having an output distribution defined by a greater width component than height component, the

light sources positioned adjacent to the input edge, thereby directing light into the optical conductor;

the optical conductor having at least one output region and a predetermined pattern of deformities configured to cause light to be emitted from the output region,

the optical conductor having a *transition region* disposed between the light source and the output region.

2. The assembly of claim 1 wherein the *transition region is configured to spread and transmit the light* generated by the light sources to the output region.

A limitation of “transmit[ting] . . . light generated by the light sources to the output region” (as recited in Claim 2) is already apparent in Claim 1, so the doctrine of claim differentiation weighs against limiting the “transition region” to being “configured to *spread and transmit light*” as recited in Claim 2. *See SanDisk Corp. v. Kingston Tech. Co., Inc.*, 695 F.3d 1348, 1361 (Fed. Cir. 2012) (“Where . . . the sole difference between the independent claim and the dependent claim[] is the limitation that one party is trying to read into the independent claim, the doctrine of claim differentiation is at its strongest.”) (citation and internal quotation marks omitted). Finally, despite their argument to the contrary, Defendants’ proposal of “*that spreads and transmits light*” is substantively indistinguishable from the recital in Claim 2 of “*configured to spread and transmit light*.” The doctrine of claim differentiation therefore weighs against Defendants’ proposed construction. *See id.*

Outside of the claims, the term “transition region” appears only in the Abstract of the ‘660 Patent, which states (emphasis added):

Light emitting assemblies include a generally planar optical conductor having at least one input edge with a greater cross-sectional width than thickness and at least one light source having a light output distribution with a greater width component than height component positioned adjacent to the input edge for directing light into the optical conductor and emission of the light from at least one output region of the optical conductor. A *transition region* is disposed between the light source and output region that is *configured to spread and transmit the light* by the light source to the output region. A plurality of faceted

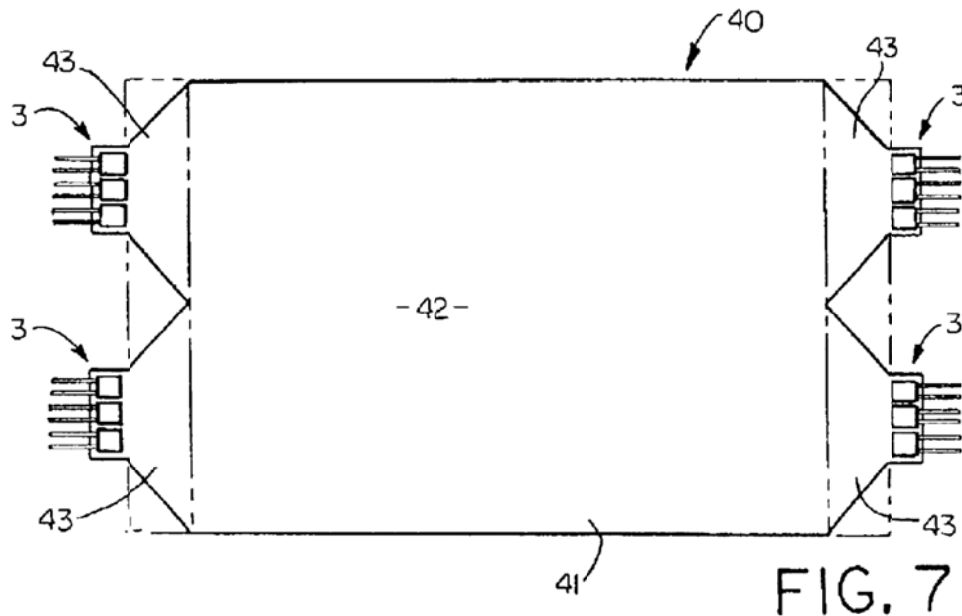
surfaces in close proximity to the light source maximize or otherwise change the light emitted from the light source.

The specification does, however, disclose a “light transition member or area 4” that transmits light from a light source to a light emitting panel:

Referring now in detail to the drawings, and initially to FIG. 1, there is schematically shown one form of light emitting panel assembly 1 in accordance with this invention including a transparent light emitting panel 2 and one or more light sources 3 which emit light in a predetermined pattern in a *light transition member or area 4* used to *make the transition* from the light source 3 to the light emitting panel 2, as well known in the art. The light that is transmitted by the *light transition area 4* to the transparent light emitting panel 2 may be emitted along the entire length of the panel or from one or more light output areas along the length of the panel as desired to produce a desired light output distribution to fit a particular application.

‘547 Patent at 2:62-3:7 (emphasis added).

Also, the parties have addressed Figure 7, which is reproduced here:



First, although Figure 7 illustrates transition regions that spread light from relatively narrow areas to a relatively wider area, “patent coverage is not necessarily limited to inventions

that look like the ones in the figures. To hold otherwise would be to import limitations [i]nto the claim[s] from the specification, which is fraught with danger.” *MBO Labs.*, 474 F.3d at 1333.

Second, the Summary of the Invention refers to a “transition area for mixing . . . multiple colored lights” (*id.* at 1:60-61), and the specification discloses, with reference to Figure 7, “light transition areas (mixing areas) 43”:

FIG. 7 is a schematic illustration of still another form of light emitting panel assembly 40 in accordance with this invention including a panel member 41 having one or more light output areas 42 and one or more *light transition areas (mixing areas) 43* containing a plurality of light sources 3 at one or both ends of the panel. *Each transition area mixes the light from one or more light sources having different colors and/or intensities.* In this particular embodiment, each of the light sources 3 desirably employs three colored LEDs (red, blue, green) in each *transition mixing area 43* so that the light from the three LEDs can be mixed to produce a desired light output color that will be emitted from the light output area 42. Alternatively, each light source may be a single LED having multiple colored chips bonded to the lead film. Also, two colored LEDs or a single LED having two colored chips may be used for a particular application. By varying the intensities of the individual respective LEDs, virtually any colored light output or white light distribution can be achieved.

Id. at 7:13-31 (emphasis added). The specification thus discloses that a transition region could be used for “mixing” rather than necessarily for spreading.

On balance, adopting Defendants’ proposal that a “transition region” “spreads and transmits light” would improperly limit the disputed term to a preferred embodiment. *See Comark*, 156 F.3d at 1187 (“[The specification] simply details how the video delay circuit is to be used in a single embodiment of the invention.”).

Thus, based on the above-quoted disclosures, as well as the doctrine of claim differentiation as applied to Claims 1 and 2 of the ‘660 Patent, the Court rejects Defendants’ proposed construction.

The Court therefore hereby construes **“transition region”** to mean **“a region configured to transmit light.”**

D. “at least some of the light extracting deformities on or in one of the sides are of a different type than the light extracting deformities on or in the other side of the panel member”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning	“at least some of the deformities on or in one side of the panel member are different than the deformities on or in the other side of the panel member in characteristics other than shape”

Dkt. No. 69 at 12; Dkt. No. 75 at 11. The parties submit that this disputed term appears in Claims 1 and 13 of the ‘370 Patent. Dkt. No. 61 at 21.

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with its preliminary proposal that this disputed term has its plain meaning.

(1) The Parties’ Positions

Plaintiff argues that “Defendants’ proposed construction appears to rest on an incorrect interpretation of the prosecution history that ‘type’ and ‘shape’ are mutually exclusive.” Dkt. No. 69 at 12. Plaintiff argues that “[i]f the inventor thought ‘type’ did not encompass ‘shape,’ he would have also removed the shape adjectives, ‘prismatic’ and ‘lenticular’ from . . . claims [16 and 17].” *Id.* at 14.

Defendants respond that their proposed construction “mak[es] clear that the ‘different types’ of deformities on the ‘panel member’ differ in characteristics other than shape,” as required by the prosecution history. Dkt. No. 75 at 11. Specifically, Defendants argue that “[the patentee] [h]aving removed ‘different . . . shape’ from the scope of the claim, [Plaintiff] cannot reclaim that scope through its construction of the term ‘type.’” *Id.* at 11-12. Further, Defendants argue, the ‘370 Patent repeatedly refers to “type or shape,” thus demonstrating that “type” and “shape” are, in Defendants’ words, “separate, non-overlapping properties.” *Id.* at 12. Finally, as

to Claims 16 and 17, Defendants respond that “nothing in the specification supports a shape-limited definition for these terms [‘prismatic’ and ‘lenticular’].” *Id.* at 12-13. To the contrary, Defendants argue, the specification does not use “lenticular” outside of the claims and uses “prismatic” to characterize a deformity “with regard to its basic nature, not its shape.” *Id.* at 13. Defendants conclude that “‘prismatic’ and ‘lenticular’ are not shapes.” *Id.*

Plaintiff replies that a “plain reading of the claims 16 and 17 . . . shows that ‘type’ encompasses ‘shape.’” Dkt. No. 82 at 5. Plaintiff further argues that although the patentee deleted the phrase “or shapes” from the claims, “[a]fter that deletion, the inventor intentionally kept the shape terms ‘prismatic’ and ‘lenticular’ and associated them with the ‘type’ of deformity.” *Id.*

At the July 30, 2014 hearing, Defendants urged that the term “prismatic” is a functional term and that many shapes can act as a “prism.”

(2) Analysis

Originally, application claims 1 and 15 (which issued as Claims 1 and 13, respectively) recited deformities of “a different type *or shape*,” but during prosecution the patentee deleted the phrase “or shape.” See Dkt. No. 75, Ex. J, 1/15/2009 Reply to Office Action of October 15, 2008, at 2 & 4-5 (pp. 69 & 71-72 of 203 of Ex. J). For example, the patentee amended Claim 1 as follows (formatting modified; claim amendments shown as in original, with additions underlined and deletions in strikethrough; italics added):

1. (currently amended): A light emitting panel assembly comprising
 - at least one light source,
 - an optical panel member having at least one input edge for receiving light from the at least one a light source,
 - the panel member having front and back sides and a greater cross sectional width than thickness,

both the front and back sides having a pattern of light extracting deformities that are projections or depressions on or in the sides to cause light to be emitted from the panel member in a predetermined output distribution, where the pattern of light extracting deformities on or in at least one of the sides varies along at least one of the length and width of the panel member and at least some of the light extracting deformities on or in one of the sides are of a different *type* ~~or shape~~ than the light extracting deformities on or in the other side of the panel member, and at least one film, sheet or substrate overlying at least a portion of one of the sides of the panel member to change the output distribution of the emitted light such that the light will pass through a liquid crystal display with low loss.

Id. at 2 (p. 69 of 203 of Ex. J).

As a threshold matter, “we must presume that the use of . . . different terms in the claims connotes different meanings.” *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000); *accord Primos, Inc. v. Hunter’s Specialties, Inc.*, 451 F.3d 841, 848 (Fed. Cir. 2006) (“[T]he terms ‘engaging’ and ‘sealing’ are both expressly recited in the claim and therefore ‘engaging’ cannot mean the same thing as ‘sealing’; if it did, one of the terms would be superfluous.”); *Chi. Bd. Options Exch., Inc. v. Int’l Sec. Exch., LLC*, 677 F.3d 1361, 1369 (Fed. Cir. 2012) (noting “[t]he general presumption that different terms have different meanings”).

The specification reinforces that the term “type” is not synonymous with the term “shape.” See ‘370 Patent at Abstract (“The pattern of light extracting deformities on or in one side may have two or more different *types or shapes* of deformities and at least one of the *types or shapes* may vary along the length or width of the panel member.”) (emphasis added); *see also* ‘547 Patent at 5:1-4 (“By varying the density, opaqueness or translucence, *shape*, depth, color, area, index of refraction, or *type* of deformities 21 on an area or areas of the panels, the light output of the panels can be controlled.”) (emphasis added). Indeed, the parties appear to agree that “type” and “shape” are not synonyms.

Rather, the dispute is whether, in light of the above-noted deletion of “or shape” during prosecution, deformities of different “type” must differ in some characteristic other than shape.

The patentee’s deletion of “or shape” at least somewhat supports interpreting the amended claims such that a difference in shape, alone, does not satisfy the “different type” limitation at issue. *See Purdue Pharma L.P. v. Endo Pharm. Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006) (“Under the doctrine of prosecution disclaimer, a patentee may limit the meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution.”); *see also Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1326-27 (Fed. Cir. 2002) (“We cannot agree that Rheox only disclaimed coverage of compounds with solubility over 5.0g/100mL, but still retained coverage of TSP or monocalcium orthophosphate. Rheox tried to claim TSP, but had to delete all reference to it to gain patentability. The deletion of only two words: ‘triple superphosphate [TSP]’ from original claim 18, now claim 8, is telling. If Rheox wanted only to distinguish [the] O’Hara [reference] based on 5.0g/100mL solubility, it would not have deleted TSP, one of its preferred embodiments, from the claims.”) (square brackets in original); *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 220-21 (1940) (“It is a rule of patent construction consistently observed that a claim in a patent as allowed must be read and interpreted with reference to claims that have been cancelled or rejected and the claims allowed cannot by construction be read to cover what was thus eliminated from the patent.”).

Defendants have nonetheless failed to demonstrate that the patentee attributed any relevant significance to the deletion of “or shape.” *See* Dkt. No. 75, Ex. J, 1/15/2009 Reply to Office Action of October 15, 2008 (pp. 68-82 of 203 of Ex. J). Defendants have likewise failed to show any statement by the patentee that the deletion of “or shape” was made to overcome a rejection or that “type” does not include “shape.” Instead, an equally plausible explanation is

that the patentee made the deletion after having decided that “shape” is entirely encompassed within “type,” such that the recitation of “shape” was superfluous. On balance, the prosecution history cited by Defendants does not rise to the level of a disclaimer. *See Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1332 (Fed. Cir. 2004) (“Because the statements in the prosecution history are subject to multiple reasonable interpretations, they do not constitute a clear and unmistakable departure from the ordinary meaning of the term ‘rotating.’”); *see also Omega Eng’g*, 334 F.3d at 1324 (“As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public’s reliance on *definitive* statements made during prosecution.”) (emphasis added); *id.* at 1325-26 (“[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both *clear and unmistakable*”) (emphasis added); *id.* at 1330 (“[T]here is more than one reasonable basis for the amendment, rendering the intent underlying the amendment ambiguous and thus negating the possibility of the disclaimer being unmistakable.”).

Further, Claims 16 and 17 of the ‘370 Patent, which depend from independent Claim 15, recite (emphasis added):

16. The assembly of claim 15 wherein at least one of the *types* of deformities is *prismatic*.

17. The assembly of claim 15 wherein at least one of the *types* of deformities is *lenticular*.

Although these claims depend from independent Claim 15 of the ‘370 Patent, which evidently Plaintiff is not asserting against Defendants (*see* Dkt. No. 86), Claim 15 recites (emphasis added): “the pattern of light extracting deformities on or in the at least one side has at least two *different types* of light extracting deformities.” *See Phillips*, 415 F.3d at 1314 (“Other

claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term. Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims.”) (citation omitted).

Claims 16 and 17 thus strongly suggest that a “prismatic” deformity, for example, is a “type” of deformity. If the terms “prismatic” and “lenticular” refer to shape rather than to some other characteristic, then Claims 16 and 17 weigh against Defendants’ proposal that the “different type” limitation cannot be satisfied by differences in shape alone.

The word “lenticular” does not appear outside of the claims of the patents-in-suit, but the specification illustrates “prismatic surfaces 23” in Figure 4b and “prismatic or other reflective or refractive surfaces 25” in Figure 4d. See ‘547 Patent at 6:4-8. The accompanying description further discloses:

In addition to or in lieu of the patterns of light extracting deformities 21 shown in FIG. 4a, other light extracting deformities including *prismatic surfaces*, depressions or raised surfaces of *various shapes* using *more complex shapes* in a mold pattern may be molded, etched, stamped, thermoformed, hot stamped or the like into or on one or more areas of the panel member. FIGS. 4b and 4c show panel areas 22 on which prismatic surfaces 23 or depressions 24 are formed in the panel areas, whereas FIG. 4d shows prismatic or other reflective or refractive surfaces 25 formed on the exterior of the panel area. The *prismatic* surfaces, depressions or raised surfaces will cause a portion of the light rays contacted thereby to be emitted from the panel member. Also, the *angles of the prisms*, depressions or other surfaces may be varied to direct the light in different directions to produce a desired light output distribution or effect. Moreover, the reflective or refractive surfaces may have *shapes* or a pattern with no specific angles to reduce moiré or other interference effects.

‘547 Patent at 5:65-6:7 (emphasis added).

The best reading of the ‘370 Patent as a whole, particularly in light of the above-quoted disclosures of “prismatic surfaces” and “prisms,” is that the term “prismatic” refers to shape.

Above-quoted Claims 16 and 17 therefore weigh against Defendants' proposal that differences in shape alone cannot satisfy the "different type" limitation.

Finally, at the July 30, 2014 hearing, Defendants re-emphasized the above-cited *Scriber-Schroth* decision of the Supreme Court of the United States. 311 U.S. 211. First, *Scriber-Schroth* predates *Markman* and *Phillips* and is therefore of somewhat reduced weight in light of the substantial body of post-*Markman* claim construction law. 52 F.3d 967; 415 F.3d 1303. Second, *Scriber-Schroth* involved an amendment that clearly changed the claim scope. See 311 U.S. at 220-23. Here, by contrast, the patentee's deletion of "shape" from the limitation of "different type or shape" did not clearly broaden or narrow the scope of the claims, particularly in light of the reasonable interpretation, set forth above, that "shape" is entirely encompassed within "type." Because "shape" is not a disputed term, the Court need not make any explicit finding in that regard, but the fact that the prosecution history lends itself to such a reading provides support for finding *Scriber-Schroth* inapplicable.

In sum, based on Claims 16 and 17 and the specification, and based on the Court's rejection of Defendants' prosecution disclaimer argument, above, Defendants' proposed construction is hereby expressly rejected. No further construction is necessary. See *U.S. Surgical*, 103 F.3d at 1568; see also *O2 Micro*, 521 F.3d at 1362; *Finjan*, 626 F.3d at 1207.

The Court accordingly hereby construes **"at least some of the light extracting deformities on or in one of the sides are of a different type than the light extracting deformities on or in the other side of the panel member"** to have its **plain meaning**.

E. “an air gap therebetween” and “an air gap between the film, sheet, plate or substrate and the panel member”

“an air gap therebetween”	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning	“a continuous layer of air between the separate transparent sheet or film and the light emitting area such that they have no direct physical contact”
“an air gap between the film, sheet, plate or substrate and the panel member”	
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning	“a continuous layer of air between the sheet, film, plate or substrate and the panel member such that they have no direct physical contact”

Dkt. No. 69 at 14; Dkt. No. 75 at 13. The parties submit that the first of these disputed terms appears in Claim 1 of the ‘547 Patent. Dkt. No. 61 at 29. The parties further submit that the second of these disputed terms appears in Claim 1 of the ‘194 Patent. *Id.* at 33.

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with its preliminary proposal that these disputed terms have their plain meaning.

(1) The Parties’ Positions

Plaintiff argues that “[o]ne of ordinary skill in the art would have understood that an air gap would exist between a film and a panel member even if they touch in some parts.” Dkt. No. 69 at 16.

Defendants respond that “[t]he term ‘gap’ indicates separateness, not contact.” Dkt. No. 75 at 13. Defendants submit, for example, that in Figure 5 of the patents-in-suit, “[i]f the light emitting panel 14 touched the back reflector 26 or sheet or film 27, there would be no air

gap between them (indeed, no gap at all).” *Id.* at 14. Defendants also cite prosecution history wherein the patentee distinguished the “Hou” reference, which Defendants submit disclosed an intermittent air gap. *Id.* at 15. Finally, Defendants cite extrinsic dictionary definitions of “gap” and “between,” quoted below. *Id.* at 16.

Plaintiff replies that Defendants are attempting to limit the claims to a preferred embodiment. Dkt. No. 82 at 6. Moreover, Plaintiff argues, a spacer inserted in the middle of the air gap, for example, would not eliminate the air gap but rather would give rise to two air gaps. *Id.*

At the July 30, 2014 hearing, Defendants argued that if their proposed construction is not adopted, then Plaintiff may interpret the “air gap” terms so narrowly so as to effectively read them out of the claims. Plaintiff responded that it will not argue, for example, that the incidental presence of one oxygen molecule between two layers amounts to an “air gap therebetween.”

(2) Analysis

Claim 1 of the ‘547 Patent is representative and recites (formatting modified; emphasis added):

1. A backlight assembly comprising
 - a light emitting member having at least one light emitting area that emits light that is internally reflected within the light emitting member,
 - a separate transparent sheet or film overlying the light emitting area with *an air gap therebetween*,
 - a pattern of deformities on one side of the sheet or film having a width and length that is quite small in relation to the width and length of the sheet or film,
 - the deformities varying at different locations on the sheet or film to direct the light that is emitted by the[] light emitting member in different directions to produce a desired light output distribution such that the light will pass through a liquid crystal display with low loss.

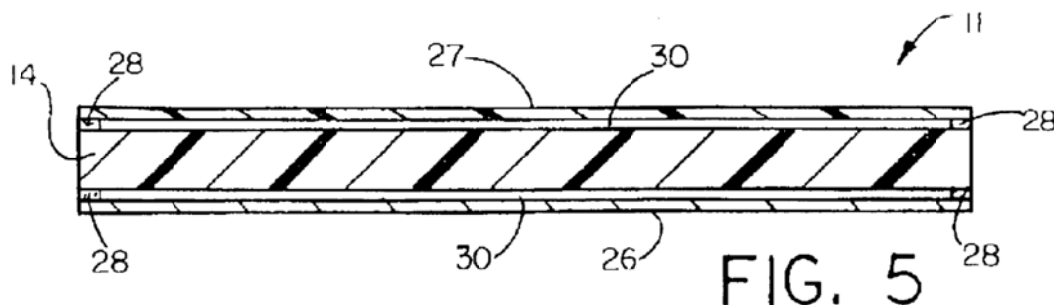
The specification discloses “air gaps 30” between panel member 14 and back reflector 26, as well as between panel member 14 and transparent sheet or film 27:

As best seen in the cross sectional view of FIG. 5, a back reflector (including trans reflectors) 26 may be attached or positioned against one side of the panel member 14 of FIG. 3 using a suitable adhesive 28 or other method in order to improve light output efficiency of the panel assembly 11 by reflecting the light emitted from that side back through the panel for emission through the opposite side. * * * Moreover, a transparent sheet or film 27 may be attached or positioned against the side or sides of the panel member from which light is emitted using a suitable adhesive 28 (see FIG. 5) or other method in order to produce a desired effect.

* * *

If adhesive 28 is used to adhere the back reflector 26 and/or sheet or film 27 to the panel, the adhesive is preferably applied *only along the side edges of the panel, and if desired the end edge* opposite the light transition areas 12, but not over the entire surface area or areas of the panel because of the difficulty in consistently applying a uniform coating of adhesive to the panel. Also, the adhesive changes the internal critical angle of the light in a less controllable manner than the *air gaps 30* (see FIG. 5) which are formed between the respective panel surfaces and the back reflector 26 and/or sheet or film 27 when *only adhered along the peripheral edges*. Additionally, longer panel members are achievable when *air gaps 30* are used. If adhesive were to be used over the entire surface, the pattern of deformities could be adjusted to account for the additional attenuation in the light caused by the adhesive.

‘547 Patent at 6:17-54 (emphasis added). At the heart of Defendants’ proposed constructions is that if there is an “air gap” between two surfaces, then there must be “no direct physical contact” between those surfaces. Figure 5 of the patents-in-suit, which appears to illustrate sheets that are only in contact at their edges, as described in the above-quoted passage, is reproduced here:



The only other disclosures of “air gaps” in the written description refer to bonding a light source to a light transition area so as to “eliminate any air gaps”:

In accordance with another aspect of the invention, the light source is desirably embedded, potted or bonded to the light transition area to *eliminate any air gaps*, decrease surface reflections and/or eliminate any lens effect between the light source and light transition area, thereby reducing light loss and increasing the light output from the panel assembly.

* * *

The light sources 3 may be mechanically held in any suitable manner in slots, cavities or openings 16 machined, molded or otherwise formed in the light transition areas of the panel assemblies. However, preferably the light sources 3 are embedded, potted or bonded in the light transition areas in order to *eliminate any air gaps* or air interface surfaces between the light sources and surrounding light transition areas, thereby reducing light loss and increasing the light output emitted by the light emitting panels.

‘547 Patent at 1:34-40 & 3:56-64 (emphasis added).

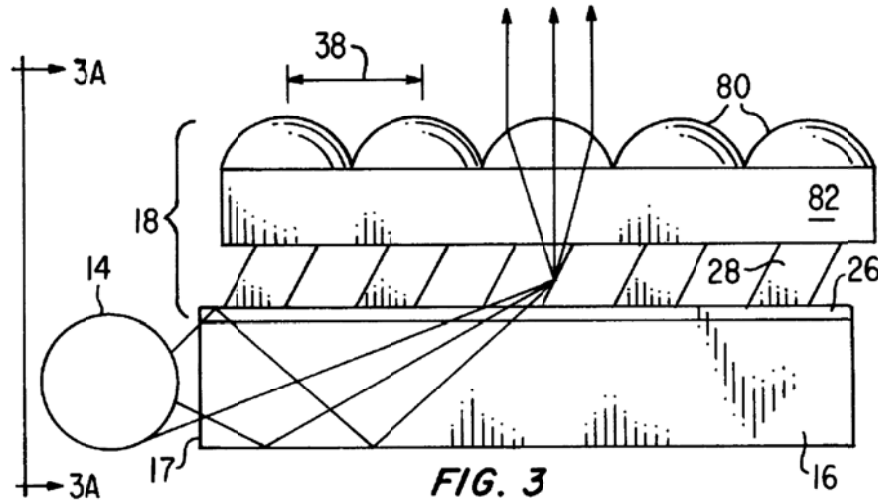
On balance, the specification does not support Defendants’ proposed “no direct physical contact” limitation. In particular, although Figure 5 illustrates air gaps between sheets that are joined only at their peripheral edges (*see id.* at 6:47-50), “patent coverage is not necessarily limited to inventions that look like the ones in the figures.” *MBO Labs.*, 474 F.3d at 1333.

Turning to the prosecution history, the patentee distinguished United States Patent No. 6,129,439 (“Hou”), stating:

In Hou et al (‘439) the *reflecting means 18* (including the spacer 82 that separates the microlenses 80 and microprisms 28) is optically coupled to the *wave guide 16* (column 4, lines 14-17 and column 6, lines 61 and 62). Thus there is no air gap in Hou et al between the light emitting area of a light emitting member and a separate transparent sheet or film as claimed.

Dkt. No. 75, Ex. K, 8/5/2003 Reply to Office Action of May 8, 2003, at 11 (p. 14 of 28 of

Ex. K). Figure 3 of Hou is reproduced here:



As Plaintiff has pointed out, the patentee did *not* argue that there is no air gap between elements 82 and 26, which border the apparent empty spaces between microprisms 28. Instead, the patentee's remarks were directed to the absence of an air gap between elements 16 and 18—element 18 including, as shown in Figure 3, microprisms 28 as well as “optional adhesion promoting layer 26.” See Hou at 4:18-19. Defendants' argument that the patentee disclaimed an intermittent air gap is therefore not a fair characterization of the patentee's remarks. Although Defendants emphasized at the July 30, 2014 hearing that Hou's layer 26 is disclosed as being optional, Figure 3 of Hou includes the layer 26. On balance, Defendants have failed to demonstrate a clear and unmistakable disclaimer. See *Omega Eng'g*, 334 F.3d at 1324, 1325-26.

As to extrinsic evidence, Defendants have submitted a dictionary definition of “gap” as meaning “an opening” or a “suspension of continuity.” Dkt. No. 85, Ex. M, *Webster's II New Riverside University Dictionary* 519 (1984). Defendants have also submitted definitions of “between” as requiring separation. *Id.* at 169 (“In the interval or position separating”); *id.*, Ex. N, *Webster's II Ninth New Collegiate Dictionary* 146 (1988) (“2 a : in the time, space, or interval that separates; “[2] b : in an intermediate space or interval”). The cited definitions do

not affect the Court's analysis, however, because the definitions do not address whether the presence of a "gap" between two surfaces precludes any contact between those surfaces.

On balance, Defendants have failed to identify any persuasive reason for finding that a point of contact defeats the existence of an air gap. Instead, as Plaintiff has argued, points of contact may indeed facilitate maintaining an air gap. Defendants' proposal of "continuous" is likewise hereby expressly rejected because, for example, as Plaintiff has persuasively argued, inserting a spacer across the middle of an air gap at best merely divides the air gap into two air gaps.

In sum, Defendants have failed to support their proposed "continuous" and "no direct physical contact" limitations with any persuasive intrinsic or extrinsic evidence. *See Omega Eng'g*, 334 F.3d at 1322 (finding that a proposed "additional negative limitation finds no anchor in the explicit claim language" and that there was no "express disclaimer or independent lexicography in the written description that would justify adding th[e proposed] negative limitation"); *see also Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) ("The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history.").

Defendants' proposed constructions are therefore hereby expressly rejected. No further construction is necessary. *See U.S. Surgical*, 103 F.3d at 1568; *see also O2 Micro*, 521 F.3d at 1362; *Finjan*, 626 F.3d at 1207.

The Court accordingly hereby construes **"an air gap therebetween"** and **"an air gap between the film, sheet, plate or substrate and the panel member"** to have their **plain meaning**.

F. “desired light output,” “desired light output distribution,” “desired light output distribution or effect,” and “desired light output color or uniformity”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning	“desired light output” means “a specific pre-identified output” “distribution,” “distribution or effect,” and “color or uniformity” should be understood to have their plain and ordinary meaning

Dkt. No. 69 at 16-17; Dkt. No. 75 at 16-17. The parties submit that the term “desired light output” appears in Claim 1 of the ‘547 Patent, Claim 23 of the ‘194 Patent, and Claim 15 of the ‘177 Patent. Dkt. No. 61 at 43. Both sides propose that the constituent terms “distribution,” “distribution or effect,” and “color or uniformity” should be given their plain and ordinary meaning. See Dkt. No. 69 at 16-17; *see also* Dkt. No. 75 at 16-17; Dkt. No. 86 at 6.

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with its preliminary proposal that “desired light output” has its plain meaning and that the remainder of these disputed terms require no further construction.

(1) The Parties’ Positions

Plaintiff argues that “[t]he word ‘desired’ is a word easily understood by laypeople and those of ordinary skill alike; it means what it says.” Dkt. No. 69 at 17. Plaintiff also argues that the specification passages and extrinsic dictionary definition cited by Defendants do not support their proposed construction. *Id.* at 18.

Defendants respond that according to the specification, “a specific output is pre-identified in order for other structures to perform the function of the alleged invention.” Dkt. No. 75 at 17. More specifically, Defendants argue that “the application is understood before manufacture and a light output is pre-identified with an eye towards that application.” *Id.* Defendants conclude that

construction is necessary “to clarify that it [(‘desired’)] does not and cannot mean any resulting output, which would render ‘desired’ meaningless.” *Id.* at 18.

Plaintiff replies that the patents-in-suit contain no lexicography that would warrant limiting the disputed term as Defendants have proposed. Dkt. No. 82 at 7.

At the July 30, 2014 hearing, Defendants urged that Plaintiff’s interpretation of these disputed terms improperly substitutes the concept of “desirable” for the term “desired.”

(2) Analysis

Claim 1 of the ‘547 Patent is representative and recites (formatting modified; emphasis added):

1. A backlight assembly comprising
 - a light emitting member having at least one light emitting area that emits light that is internally reflected within the light emitting member,
 - a separate transparent sheet or film overlying the light emitting area with an air gap therebetween,
 - a pattern of deformities on one side of the sheet or film having a width and length that is quite small in relation to the width and length of the sheet or film,
 - the deformities varying at different locations on the sheet or film to direct the light that is emitted by the[] light emitting member in different directions to produce a *desired light output distribution* such that the light will pass through a liquid crystal display with low loss.

The specification uses the terms “as desired” and “desired light output” but does not imbue those terms with any temporal requirement:

The light that is transmitted by the light transition area 4 to the transparent light emitting panel 2 may be emitted along the entire length of the panel or from one or more light output areas along the length of the panel *as desired* to produce a *desired light output* distribution to fit a particular application.

‘547 Patent at 3:2-7 (emphasis added).

Defendants have cited *Datamize, LLC v. Plumtree Software, Inc.* for the statement that “the term ‘desired’ . . . requires foreknowledge and even intent on the part of the person practicing the invention.” 417 F.3d 1342, 1355-56 (Fed. Cir. 2005) (discussing *Koito Mfg. Co.*,

Ltd. v. Turn-Key-Tech, LLC, 381 F.3d 1142, 1150 n.2 (Fed. Cir. 2004), *abrogated on other grounds by Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120 (2014). Because *Datamize* involved a different disputed term and a different patent-in-suit, Defendants’ citation of *Datamize* is unpersuasive.

In sum, Defendants have failed to identify any persuasive intrinsic or extrinsic support for finding that “desire” requires a determination made in advance. Defendants’ proposed constructions are therefore hereby expressly rejected.

As to whether construction is required, the term “desired light output” appears only as part of the larger disputed terms here at issue. On balance, the meaning of “desired light output” is sufficiently clear in the context of those larger terms, and no further construction is necessary. *See U.S. Surgical*, 103 F.3d at 1568; *see also O2 Micro*, 521 F.3d at 1362.

The Court accordingly hereby construes **“desired light output,” “desired light output distribution,” “desired light output distribution or effect,” and “desired light output color or uniformity”** to have their **plain meaning**.

G. “predetermined”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning	“chosen in advance”

Dkt. No. 69 at 18; Dkt. No. 75 at 18. The parties submit that this disputed term appears in Claims 1, 13, 29, and 47 of the ‘370 Patent, Claim 1 of the ‘177 Patent, and Claims 1 and 33 of the ‘660 Patent. Dkt. No. 61 at 43.

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with its preliminary proposal that this disputed term means: “chosen in advance.”

(1) The Parties' Positions

Plaintiff argues that Defendants' proposed construction "improperly imports a process limitation into apparatus claims." Dkt. No. 69 at 18. Plaintiff also submits that "[t]he words 'chosen in advance' or any variant thereof do not appear once in the specification of the patents-in-suit." *Id.* at 19.

Defendants respond that their proposal is consistent with the specification as well as dictionary definitions and legal precedent. Dkt. No. 75 at 18 (citing *IGT v. Bally Gaming Int'l, Inc.*, 659 F.3d 1109, 1118 (Fed. Cir. 2011) (affirming construction of "predetermined event" as meaning "the occurrence of one or more conditions chosen in advance")). Defendants also urge that their proposal "properly recognizes that the patentee 'chose to limit its claims with a scienter requirement.'" *Id.* at 19 (citing *Koito Mfg.*, 381 F.3d at 1150 n.2).

Plaintiff replies, as to the *IGT* case cited by Defendants, that Plaintiff "cannot be held [to] a different term's construction in a different case on different technology." Dkt. No. 82 at 7. Plaintiff also notes that none of the dictionaries cited by Defendants state that "predetermined" means "chosen in advance." *Id.* at 8.

At the July 30, 2014 hearing, Plaintiff submitted that the term "predetermined" is used differently in differently claims. Plaintiff argued that Defendants' proposed construction would introduce ambiguity as to who "chooses" and "in advance" of what. Further, Plaintiff urged, what is claimed as being "predetermined" simply follows from the laws of physics in combination with other claim limitations. Plaintiff concluded that although "predetermined" may refer to something being fixed or known, it does not require anything to be "in advance" of anything else.

(2) Analysis

Claim 1 of the '177 Patent is representative and recites (formatting modified; emphasis added):

1. A light emitting assembly comprising
a tray having a back wall and continuous side walls that form a hollow cavity or recess completely surrounded by the side walls,
at least one light source located, mounted or positioned in the cavity or recess, and
at least one sheet, film or substrate overlying the assembly for controlling the light emitted from the assembly to fit a particular application,
wherein the tray acts as at least one of a back, side edge, and end edge reflector and has one or more secondary flat, angled, faceted or curved reflective or refractive surfaces to redirect at least a portion of the light emitted by the light source in a *predetermined* manner within the cavity or recess.

The specification uses “predetermined” but does not define or explain the term:

Referring now in detail to the drawings, and initially to FIG. 1, there is schematically shown one form of light emitting panel assembly 1 in accordance with this invention including a transparent light emitting panel 2 and one or more light sources 3 which emit light in a *predetermined* pattern in a light transition member or area 4 used to make the transition from the light source 3 to the light emitting panel 2, as well known in the art.

* * *

The deformities 21 may also be used to control the output ray angle distribution of the emitted light to suit a particular application. For example, if the panel assemblies are used to provide a liquid crystal display backlight, the light output will be more efficient if the deformities 21 cause the light rays to emit from the panels at *predetermined* ray angles such that they will pass through the liquid crystal display with low loss.

* * *

[O]ne or more secondary reflective or refractive surfaces 38 may be provided on the panel member 33 and/or tray 35 to reflect a portion of the light around one or more corners or curves in a nonrectangular shaped panel member 33. These secondary reflective/refractive surfaces 38 may be flat, angled, faceted or curved, and may be used to extract a portion of the light away from the panel member in a *predetermined* pattern.

* * *

[A] separate cavity or recess 56 may be provided in the panel member 51 for receipt of a correspondingly shaped light transition area 57 having one or more light sources 3 embedded, bonded, cast, insert molded, epoxied, or otherwise mounted or positioned therein and a curved reflective or refractive surface 58 on the transition area 57 and/or wall of the cavity or recess 56 to redirect a portion of the light in a *predetermined* manner.

‘547 Patent at 2:62-3:2, 5:23-30, 7:3-10 & 7:48-55 (emphasis added).

As to extrinsic evidence, Defendants have cited dictionary definitions of “predetermined” as meaning something determined “in advance,” “before it happens.” Dkt. No. 75, Ex. P, *Longman Dictionary of Contemporary English* 1107 (1995) (“if something is predetermined, it has been formed or arranged before it happens, and does not happen by chance”); *id.*, Ex. Q, *Oxford Advanced Learner’s Encyclopedic Dictionary* 704 (1992) (“predetermine”: “decide or fix . . . in advance; prearrange”) (emphasis added); *id.*, Ex. R, *The American Heritage Dictionary* 652 (3d ed. 1994) (“predetermine”: “To determine or decide in advance.”); *id.*, Ex. I, *The American Heritage Dictionary of the English Language* 1426 (3d ed. 1996) (“predetermine”: “To determine, decide, or establish in advance.”).

Plaintiff has cautioned that “[c]ourts must generally take care to avoid reading process limitations into an apparatus claim . . . because the process by which a product is made is irrelevant to the question of whether that product infringes a pure apparatus claim.” *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859, 873 (Fed. Cir. 2010) (quoting *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1344 (Fed. Cir. 2008)) (ellipsis in original). Defendants’ proposal of “chosen in advance,” however, is not a process limitation. Instead, in above-quoted Claim 1 of the ‘177 Patent, for example, “predetermined” refers to the recited elements being configured so as to redirect light in a particular manner.

Further, Plaintiff does not dispute that “predetermined” is a limitation, and in general all limitations should be given meaning. *See Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (“[C]laims are interpreted with an eye toward giving effect to all terms in the claim.”).

On balance, although extrinsic dictionary definitions are given less weight than the intrinsic evidence when construing claims (*see generally Phillips*, 415 F.3d 1303), here the submitted definitions are essentially consistent with the claim language and the other intrinsic evidence, set forth above. *See Power-One*, 599 F.3d at 1348 (“The terms, as construed by the court, must ensure that the jury fully understands the court’s claim construction rulings and what the patentee covered by the claims.”) (citation and internal quotation marks omitted).

As to the appropriate construction, however, Plaintiff properly objects that the word “chosen” may raise issues as to who does the choosing. Likewise, the phrase “in advance” may raise issues as to “in advance” of what. Nonetheless, the above-quoted dictionary definitions suggest that “predetermined” means “fixed,” and at the July 30, 2014 hearing, Plaintiff was amenable to such a construction, at least in principle. Further, such a construction gives meaning to the prefix “pre-” by requiring a degree of immutability that the word “determined” might not by itself demand.

The Court therefore hereby construes **“predetermined”** to mean **“fixed.”**

H. “posts, tabs, or other structural features that provide a mount”

The parties submit that this disputed term appears in Claims 1 and 7 of the ‘974 Patent. Dkt. No. 61 at 86.

In their briefing, the parties reached agreement that this disputed term should be given its “plain and ordinary meaning.” Dkt. No. 69 at 19; Dkt. No. 75 at 19. The parties’ agreement in this regard is set forth in Appendix A to this Claim Construction Memorandum and Order.

I. “well defined optical elements or deformities” and “optical elements or deformities of well defined shape”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning In the alternative only, if the Court determines that this term should be construed: “optical elements or deformities having clearly distinguishable limits, boundaries, or features”	This term is indefinite under 35 U.S.C. § 112(2)

Dkt. No. 69 at 21; Dkt. No. 75 at 22-23. The parties submit that the first of these disputed terms appears in Claims 1, 16, and 31 of the ‘194 Patent. Dkt. No. 61 at 55. The parties further submit that the second of these disputed terms appears in Claim 28 of the ‘194 Patent. *Id.* at 61.

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with its preliminary proposal that “well defined” means “distinct.”

(1) The Parties’ Positions

Plaintiff argues that “[t]he specification gives one of ordinary skill in the art ample guidance to understand what was meant by ‘well defined optical elements or deformities.’” Dkt. No. 69 at 21. Plaintiff also argues that “Defendants’ contention that one of ordinary skill in the art would be unable to distinguish a ‘well-defined deformity’ from a ‘poorly defined [deformity]’ fails to give any credit to the abilities of those of skill in the art.” *Id.* at 23. Further, Plaintiff argues, during prosecution of the ‘194 Patent “the Examiner specifically discussed prior art that he believed showed ‘well-defined optical elements.’” *Id.*

Defendants respond that “[t]he patent specification does not inform one of ordinary skill in the art with ‘reasonable certainty’ as to what constitutes ‘well defined deformities’ versus just ‘deformities.’” Dkt. No. 75 at 23. Defendants note that Claim 1 of the ‘547 Patent recites

“deformities” without reciting “well defined.” *Id.* Defendants also note that the specification passages relied upon by Plaintiff are directed to “deformities” and not to “well defined deformities.” *Id.* at 23-24.

As to the prosecution history, Defendants respond that “the examiner’s statement that a prior art reference disclosed a film, sheet, or plate with an example of well-defined optical elements does not mean that one of ordinary skill would know *the boundaries* of what constitutes ‘well defined deformities.’” *Id.* at 24. Defendants further observe that “[e]very patent that a court invalidates as indefinite is one that a Patent Office examiner allowed initially.” *Id.* Finally, Defendants argue that “Plaintiff cannot supplement the deficient disclosure of the patents in the context of optical technology with generic extrinsic dictionary evidence.” *Id.*

Plaintiff replies by reiterating its opening arguments and by noting that Defendants “provide no expert opinion on whether one of ordinary skill . . . in the art would understand the reasonable scope of these terms.” Dkt. No. 82 at 8-9.

At the July 30, 2014 hearing, Defendants reiterated their argument that “well defined” requires an unknown degree of definition, thereby rendering the disputed term indefinite.

(2) Analysis

The Supreme Court of the United States has recently “read [35 U.S.C.] § 112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus*, 134 S. Ct. at 2129. “A determination of claim indefiniteness is a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims.” *Datamize*, 417 F.3d at 1347 (citations and internal quotation marks omitted).

Claims 1 and 28 of the '194 Patent are representative and recite (formatting modified; emphasis added):

1. A light emitting assembly comprising
 - at least a light emitting panel member having a light emitting surface,
 - at least one light source,
 - at least one film, sheet, plate or substrate positioned near the light emitting surface through which light from the panel member is emitted, and
 - an air gap between the film, sheet, plate or substrate and the panel member,
 - wherein at least one surface of the film, sheet, plate or substrate has one or more reflective or refractive surfaces, and
 - at least one of the reflective or refractive surfaces has *well defined optical elements or deformities* for controlling the emitted light such that at least some of the light is redirected to pass through a liquid crystal display with low loss.

* * *

28. A light emitting assembly comprising
 - at least one light source and
 - at least one transparent film, sheet, plate or substrate having top and bottom surfaces,
 - a plurality of *optical elements or deformities of well defined shape* on or in the top and bottom surfaces, at least some of the optical elements or deformities on or in at least one of the top and bottom surfaces having one or more reflective or refractive surfaces for controlling the emitted light such that at least some of the light is redirected to pass through a liquid crystal display with low loss.

“When a word of degree is used[,] the district court must determine whether the patent’s specification provides some standard for measuring that degree.” *Datamize*, 417 F.3d at 1351 (citation and internal quotation marks omitted). The specification discloses:

Print patterns of light extracting deformities 21 may vary in shapes such as dots, squares, diamonds, ellipses, stars, random shapes, and the like, and are desirably 0.006 square inch per deformity/element or less. Also, print patterns that are 60 lines per inch or finer are desirably employed, thus making the deformities or shapes 21 in the print patterns nearly invisible to the human eye in a particular application thereby eliminating the detection of gradient or banding lines that are common to light extracting patterns utilizing larger elements.

* * *

In addition to or in lieu of the patterns of light extracting deformities 21 shown in FIG. 4a, other light extracting deformities including prismatic surfaces, depressions or raised surfaces of various shapes using more complex shapes in a mold pattern may be molded, etched, stamped, thermoformed, hot stamped or the like into or on one or more areas of the panel member. FIGS. 4b and 4c show panel areas 22 on which prismatic surfaces 23 or depressions 24 are formed in the panel areas, whereas FIG. 4d shows prismatic or other reflective or refractive surfaces 25 formed on the exterior of the panel area. The prismatic surfaces, depressions or raised surfaces will cause a portion of the light rays contacted thereby to be emitted from the panel member. Also, the angles of the prisms, depressions or other surfaces may be varied to direct the light in different directions to produce a desired light output distribution or effect. Moreover, the reflective or refractive surfaces may have shapes or a pattern with no specific angles to reduce moiré or other interference effects.

‘547 Patent at 5:41-50 & 5:65-6:16.

The best reading of the claims, in light of the above-quoted passages from the specification, is that the patentee used “well defined” to mean “distinct.” *See Phillips*, 415 F.3d at 1314 (“In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”). At the July 30, 2014 hearing, Plaintiff stated that it accepted and agreed with the Court’s preliminary construction in this regard. Such a construction gives proper meaning to “well defined” in the context of the claims by distinguishing deformities from, for example, a gradual change in thickness (or some other property) across the entire claimed panel or plate.

Such a construction also comports with the extrinsic dictionary definitions cited by Plaintiff, which define “well-defined” as meaning “having clearly distinguishable limits or boundaries.” Dkt. No. 69, Ex. C, *The Merriam-Webster Dictionary* 599 (1998); *see id.*, Ex. D, *Merriam-Webster’s Collegiate Dictionary* 1338 (10th ed. 2002) (“having clearly distinguishable limits, boundaries, or features”).

Finally, as to the examiner's use of the term "well defined" in the context of a prior art rejection, the examiner did not explain the meaning of the term, so the examiner's remark is of limited weight. *See* Dkt. No. 75, Ex. S, 4/10/2007 Office Action at 3-4 (pp. 39-40 of 87 of Ex. S).

Nonetheless, the examiner's use of the term without objection provides further support for finding that "well defined" has a readily understandable meaning in the context of the claims and the specification. *See Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed. Cir. 1984) (patent examiners are "assumed . . . to be familiar from their work with the level of skill in the art"), *abrogated on other grounds, Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276 (Fed. Cir. 2011); *see also PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1304 (Fed. Cir. 2008) (citing *American Hoist*); *Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1347 (Fed. Cir. 2005) ("Statements about a claim term made by an Examiner during prosecution of an application may be evidence of how one of skill in the art understood the term at the time the application was filed.").

The Court accordingly hereby construes "**well defined**" to mean "**distinct**," and the Court otherwise construes the terms "**well defined optical elements or deformities**" and "**optical elements or deformities of well defined shape**" to have their **plain meaning**.

Defendants' indefiniteness argument is hereby expressly rejected.

J. "a pattern of deformities on one side of the sheet or film having a width and length that is quite small in relation to the width and length of the sheet or film"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning	This term is indefinite under 35 U.S.C. § 112(2)

Dkt. No. 69 at 25; Dkt. No. 75 at 24. The parties submit that this disputed term appears in Claim 1 of the ‘547 Patent. Dkt. No. 61 at 62.

(1) The Parties’ Positions

Plaintiff submits that “the term itself states that [the] pattern of deformities is quite small ‘in relation to the width and length of the sheet or film.’” Dkt. No. 69 at 25-26. Plaintiff also cites disclosure in the specification as well as a rejection by the examiner during prosecution of the ‘547 Patent. *Id.* at 26.

Defendants respond that the specification fails to provide the necessary guidance because the example cited by Plaintiff, in which deformities are “desirably 0.006 square inch per deformity/element or less” and “print patterns are 60 lines per inch or finer” (‘547 Patent at 5:42-53), “never mentions a sheet or film,” “never uses the term ‘quite small,’ never states whether 60 lines per inch would be ‘quite small,’ and never gives any standard for determining whether something is ‘quite small.’” Dkt. No. 75 at 25 (citing, *e.g.*, *Advanced Display Techs. of Tex., LLC v. AU Optronics Corp.*, No. 6:11-CV-11, -391, 2012 WL 2872121, at *12 (E.D. Tex. July 12, 2012) (Davis, J.) (“The [patent-in-suit] . . . fails to provide a standard for measuring the difference between a mere modulated surface and a *highly* modulated surface.”); *id.* at *14-*15 (similar as to “smooth bumps”)).

Moreover, Defendants argue, even if this disclosure could be relied upon, “a single example does not inform one of ordinary skill in the art as to where ‘quite small’ begins and ends.” *Id.* As to the prosecution history, Defendants respond that “[e]ven if the Examiner found in [the] Nakamura [reference] something that he [(the examiner)] subjectively believed to be ‘quite small,’ that does not define the boundaries of ‘quite small’ to one of ordinary skill in the art with the ‘reasonable certainty’ necessary to avoid the ‘zone of uncertainty’ that the Supreme

Court found impermissible.” *Id.* at 26 (citing *Nautilus*, 134 S.Ct. at 2129-30). Defendants conclude that “Plaintiff did not propose an alternative construction because it could not.” Dkt. No. 75 at 20.

Plaintiff replies by reiterating its opening arguments and by noting that “Defendants cite no expert opinion on whether one of ordinary skill . . . in the art would have understood the reasonable scope of this term.” Dkt. No. 82 at 9.

(2) Analysis

Claim 1 of the ‘547 Patent recites (formatting modified; emphasis added):

1. A backlight assembly comprising
a light emitting member having at least one light emitting area that emits light that is internally reflected within the light emitting member,
a separate transparent sheet or film overlying the light emitting area with an air gap therebetween,
a pattern of deformities on one side of the sheet or film having a width and length that is quite small in relation to the width and length of the sheet or film,
the deformities varying at different locations on the sheet or film to direct the light that is emitted by the[] light emitting member in different directions to produce a desired light output distribution such that the light will pass through a liquid crystal display with low loss.

“When a word of degree is used[,] the district court must determine whether the patent’s specification provides some standard for measuring that degree.” *Datamize*, 417 F.3d at 1351 (citation and internal quotation marks omitted). The specification discloses:

Print patterns of light extracting deformities 21 may vary in shapes such as dots, squares, diamonds, ellipses, stars, random shapes, and the like, and are desirably 0.006 square inch per deformity/element or less. Also, print patterns that are 60 lines per inch or finer are desirably employed, thus making the deformities or shapes 21 in the print patterns nearly invisible to the human eye in a particular application thereby eliminating the detection of gradient or banding lines that are common to light extracting patterns utilizing larger elements. Additionally, the deformities may vary in shape and/or size along the length and/or width of the panel members.

’547 Patent at 5:42-53.

On one hand, during prosecution, the examiner used the phrase “quite small” when referring to United States Patent No. 5,467,417 (“Nakamura”): “[F]igure 2 [of Nakamura] shows that the deformities are quite small in relation to the width and length of the substrate.” Dkt. No. 75, Ex. K, 5/5/2003 Office Action at 5 (p. 23 of 28 of Ex. K).

On the other hand, neither the examiner nor the patentee provided any indication of the significance of the term “quite small” or of the difference between “quite small” and simply “small.”

In the absence of any objective criteria for evaluating what on its face is a purely subjective term, the disputed term is indefinite. *See Nautilus*, 134 S. Ct. at 2129 (“[C]laims, viewed in light of the specification and prosecution history, [must] inform those skilled in the art about the scope of the invention with reasonable certainty.”); *see also Datamize*, 417 F.3d at 1350 (“The scope of claim language cannot depend solely on the unrestrained, subjective opinion of a particular individual purportedly practicing the invention.”).

Moreover, at the July 30, 2014 hearing, a disagreement arose as to whether what is “quite small,” in the disputed term, is it each *deformity* or is it instead the “*pattern* of deformities.” Plaintiff submitted it had been operating under an understanding that the *deformities* are “quite small.” As quoted above, the patent examiner evidently had the same understanding. Defendants submitted that the disputed term, on its face, recites that the “*pattern* of deformities . . . is quite small” Further exacerbating this confusion, the term “pattern of deformities” is itself a disputed term, addressed above, that the parties have substantially agreed relates to the positions of deformities. How the positions of deformities can have a size, such as “quite small,” is unclear. In light of the indefiniteness finding already set forth in this subsection, above, the Court need not attempt to resolve these issues that crystalized at the July 30, 2014 hearing, but

this confusion is noteworthy as reinforcing the Court’s conclusion that the scope of the claim is not “reasonabl[y] certain[.]” *Nautilus*, 134 S. Ct. at 2129

The Court accordingly finds that **“a pattern of deformities on one side of the sheet or film having a width and length that is quite small in relation to the width and length of the sheet or film”** is **indefinite** and that, as a result, **Claim 1 of the ‘547 Patent is invalid.**

K. “pass through a liquid crystal display with low loss”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning In the alternative only, if the Court determines that this term should be construed: “efficiently conducts light through a liquid crystal display”	This term is indefinite under 35 U.S.C. § 112(2)

Dkt. No. 69 at 27; Dkt. No. 75 at 26. The parties submit that this disputed term appears in Claims 1, 16, and 28 of the ‘194 Patent, Claims 1 and 29 of the ‘370 Patent, and Claim 1 of the ‘547 Patent. Dkt. No. 61 at 67.

(1) The Parties’ Positions

Plaintiff argues that based on disclosure in the specification, “one of ordinary skill in the art would have understood the scope of the term ‘passing through a liquid crystal display with low loss’ to cover the situation when a more efficient light output is created by using deformities to cause light rays to emit at predetermined ray angles from the backlight panel.” Dkt. No. 69 at 28. Plaintiff also submits that “[a]ny person of ordinary skill in the art of LCD backlights would have been aware of the concept of low loss; without low loss, the backlight would unnecessarily waste power and battery life and would not direct bright light through the LCD.” *Id.* at 28 (citing ‘547 Patent at 1:64-67).

Defendants respond that “the patent specification provides no standard and provides no public notice as to what would constitute ‘low loss’ versus ‘moderate loss’ or ‘high loss.’” Dkt. No. 75 at 27. Defendants submit that the passages relied upon by Plaintiff “do[] not mention ‘low loss,’ and shed[] no light on the issue of when loss is ‘low’ versus any other degree of loss.” *Id.* Defendants further submit that the prosecution history provides no guidance. *Id.* at 28.

Plaintiff replies by reiterating its opening arguments and by noting that “Defendants provide no expert testimony in support of their indefiniteness arguments” for this term. Dkt. No. 82 at 10.

(2) Analysis

Claim 1 of the ‘547 Patent recites (formatting modified; emphasis added):

1. A backlight assembly comprising
 - a light emitting member having at least one light emitting area that emits light that is internally reflected within the light emitting member,
 - a separate transparent sheet or film overlying the light emitting area with an air gap therebetween,
 - a pattern of deformities on one side of the sheet or film having a width and length that is quite small in relation to the width and length of the sheet or film,
 - the deformities varying at different locations on the sheet or film to direct the light that is emitted by the[] light emitting member in different directions to produce a desired light output distribution *such that the light will pass through a liquid crystal display with low loss.*

As to the prosecution history of the ‘370 Patent, the term “low loss” originally appeared in dependent claims. *See* Dkt. No. 75, Ex. J at pp. 185, 187 & 189 of 203. The patentee then amended the independent claims to include the “low loss” limitation, but the patentee did so without any relevant accompanying remarks. *See id.*, 1/15/2009 Reply to Office Action of October 15, 2008, at 2 & 9 (pp. 69 & 76 of 203 of Ex. J). The prosecution histories of the ‘547 Patent and the ‘194 Patent likewise provide no guidance. *See id.*, Ex. K, 8/5/2003 Reply to Office Action at 4 & 6 (pp. 7 & 9 of 28 of Ex. K) (introducing new claims reciting “low loss”);

see also id., Ex. S, 7/9/2007 Reply to Office Action of April 10, 2007, at 1-8 (pp. 22-29 of 87 of Ex. S).

Nonetheless, the specification reveals that the disputed term is a statement of an objective of the claimed invention. The Background of the Invention states:

Light emitting panel assemblies are generally known. However, the present invention relates to several different light emitting panel assembly configurations which provide for better control of the light output from the panel assemblies and for *more efficient utilization of light*, which results in greater light output from the panel assemblies.

'547 Patent at 1:21-25 (emphasis added). The Summary of the Invention states:

The various light emitting panel assemblies of the present invention are *very efficient* panel assemblies that may be used to produce increased uniformity and higher light output from the panel members with lower power requirements, and allow the panel members to be made thinner and/or longer, and/or of various shapes and sizes.

Id. at 1:64-2:2 (emphasis added). The specification discloses:

The deformities 21 may also be used to control the output ray angle distribution of the emitted light to suit a particular application. For example, if the panel assemblies are used to provide a liquid crystal display backlight, the light output will be *more efficient* if the deformities 21 cause the light rays to emit from the panels at predetermined ray angles such that they will pass through the liquid crystal display with *low loss*.

Id. at 5:23-30 (emphasis added).

Generally, “claims are interpreted with an eye toward giving effect to all terms in the claim.” *Bicon*, 441 F.3d at 950. Nonetheless, “surplusage may exist in some claims.”

Decisioning.com, Inc. v. Federated Dep’t Stores, Inc., 527 F.3d 1300, 1312 n.6 (Fed. Cir. 2008);

accord ERBE Elektromedizin GmbH v. Canady Tech. LLC, 629 F.3d 1278, 1286 (Fed. Cir.

2010). In particular, “[a] ‘whereby’ clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim.” *Tex. Instruments Inc. v. U.S.*

Int'l Trade Comm'n, 988 F.2d 1165, 1172 (Fed. Cir. 1993); *accord Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1319 (Fed. Cir. 2003).

Here, above-quoted Claim 1 of the '547 Patent recites that deformities are configured "to produce a desired light output distribution." The additional clause "such that the light will pass through a liquid crystal display with low loss" merely states a result of the claim limitations and adds nothing to the substance of the claim. Claims 1 and 29 of the '370 Patent are similar. Likewise, in Claims 1, 16, and 28 of the '194 Patent, deformities are configured "such that at least some of the light is redirected to pass through a liquid crystal display," and the additional phrase "with low loss" merely states a beneficial result of such a configuration.

The Court therefore concludes that the "low loss" term is analogous to a whereby clause and does not limit the claims in which it appears. *Cf. Tex. Instruments*, 988 F.2d at 1172; *Lockheed*, 324 F.3d at 1319. Based on this finding, the Court rejects Defendants' indefiniteness argument, and no further construction is necessary.

L. "to [suit/fit] a particular application"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning	This term is indefinite under 35 U.S.C. § 112(2)

Dkt. No. 69 at 29; Dkt. No. 75 at 28. The parties submit that this disputed term appears in Claim 31 of the '194 Patent, Claim 5 of the '974 Patent, and Claims 1, 14, and 15 of the '177 Patent. Dkt. No. 61 at 76.

Shortly before the start of the July 30, 2014 hearing, the Court provided the parties with its preliminary proposal that this disputed term has its plain meaning.

(1) The Parties' Positions

Plaintiff argues that the scope of “particular applications” is “LCD back lighting or lighting in general, decorative and display lighting, automotive lighting, dental lighting, phototherapy or other medical lighting, membrane switch lighting, and sporting goods and apparel lighting or the like.” Dkt. No. 69 at 29-30 (quoting ‘194 Patent at 9:1-12).

Defendants respond: “Without any . . . standard in the specification to reference, the infringement analysis would depend impermissibly on the subjective mindset of the accused infringer to determine whether the accused product ‘suit[s]’ or ‘fit[s]’ the application.” Dkt. No. 75 at 29. Defendants argue that the list of examples of applications disclosed in the specification, relied upon by Plaintiff, is insufficient because “[n]either the specification nor the relevant file histories identify a finite list of the possible applications that may be used, and in any case Plaintiff cannot improperly read embodiments into the claims in an attempt to save them.” *Id.* Moreover, Defendants argue, Plaintiff cannot overcome the “failure to provide any standard to determine when the light is controlled in a way ‘suit[ed]’ or ‘fit[ted]’ to an application, whether one of the examples Plaintiff points to or otherwise.” *Id.* at 29-30.

Plaintiff’s reply, in full, is as follows:

Defendants do not have any expert declarations to support their argument because no expert would testify to a lack of understanding of the reasonable scope of this term. The claims give specific examples of *the particular applications for which the patents-in-suit are intended*. One of ordinary skill in the art would obviously read the claims with those applications in mind, and thus would have understood the scope of these terms with reasonable certainty.

Dkt. No. 82 at 10 (footnotes omitted).

(2) Analysis

Claim 31 of the ‘194 Patent is representative and recites (formatting modified; emphasis added):

31. A light emitting assembly comprising
at least a tray that forms a cavity or recess,
at least one light source positioned within the cavity or recess,
at least one film, sheet, plate or substrate positioned over the cavity or
recess through which light from the light source is emitted,
wherein at least one surface of the film, sheet, plate or substrate has one or
more reflective or refractive surfaces that are well defined optical elements or
deformities for controlling the light output ray angle distribution of the light
emitted *to suit a particular application*.

The specification discloses examples of applications:

The various light emitting panel assemblies disclosed herein may be used for a great many different *applications* including for example LCD back lighting or lighting in general, decorative and display lighting, automotive lighting, dental lighting, phototherapy or other medical lighting, membrane switch lighting, and sporting goods and apparel lighting or the like. Also the panel assemblies may be made such that the panel members and deformities are transparent without a back reflector. This allows the panel assemblies to be used for example to front light an LCD or other display such that the display is viewed through the transparent panel members.

‘547 Patent at 8:66-9:10 (emphasis added).

On balance, the claim language adequately explains that the recited apparatus must be tailored for an application, regardless of what that application may be. Notably, neither side truly contends that they do not understand this limitation. Instead, the crux of Defendants’ argument is that every device they manufacture would meet this limitation, and it is thus not much of a limitation at all. Whether or not this language, as a practical matter, has a substantial impact on the *breadth* of the claims is immaterial to the *definiteness* of the claims as long as the scope is clear. *See, e.g., Ultimex Cement Mfg. v. CTS Cement Mfg.*, 587 F.3d 1339, 1352. Defendants have not identified any authority to the contrary.

Defendants’ indefiniteness argument is accordingly hereby expressly rejected. No further construction is necessary. *See U.S. Surgical*, 103 F.3d at 1568; *see also O2 Micro*, 521 F.3d

at 1362. The Court accordingly hereby construes “to [suit/fit] a particular application” to have its **plain meaning**.

CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit.

As further set forth above regarding the term “a pattern of deformities on one side of the sheet or film having a width and length that is quite small in relation to the width and length of the sheet or film,” the Court finds that Claim 1 of the ‘547 Patent is invalid as indefinite.

The parties are ordered that they may not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 26th day of August, 2014.



ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

APPENDIX A

<u>Term</u>	<u>Parties' Agreement</u>
“deformities” ('547 Patent, Claims 1, 2 & 41; '194 Patent, Claims 1, 16, 28 & 31; '660 Patent, Claims 1 & 33; '974 Patent, Claims 1, 7 & 13; '370 Patent, Claims 1, 4, 8, 13, 29 & 47; '816 Patent, Claim 1; '177 Patent, Claim 14)	“any change in the shape or geometry of a surface and/or coating or surface treatment that causes a portion of the light to be emitted”
“posts, tabs, or other structural features that provide a mount” ('974 Patent, Claims 1 & 7)	Plain and ordinary meaning

Dkt. No. 61 at 2; Dkt. No. 75 at 19; Dkt. No. 86 at 2.