United States District Court,
E.D. Texas, Marshall Division.

**ADVANCED TECHNOLOGY INCUBATOR, INC,**
Plaintiff.
v.
**SHARP CORPORATION, Sharp Electronics Corporation, DAI Nippon Printing, and DNP Color Techno Kameyama Co., Ltd,**
Defendants.

No. 2:07-CV-468

**March 11, 2009.**

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## *CLAIM CONSTRUCTION ORDER*

**BARRY A. BRYANT, United States Magistrate Judge.**

Before the Court are briefs related to Advanced Technology Incubator, Inc. ("ATI") Patent Nos. Re. 37, 682 ("the '682 Patent") and Re. 36, 711 ("the '711 Patent"). Dkt. Nos. 81, 83, 84, 88, 90, 91. After considering the patents, arguments of counsel, and all other relevant pleadings and papers, the Court finds that the claims of the patents-in-suit should be construed as set forth herein.

## I. BACKGROUND

On October 29, 2007, ATI filed this action against Sharp Corporation and Sharp Electronics Corporation (collectively "Sharp") and DAI Nippon Printing and DNP Color Techno Kameyama Co., Ltd. (collectively "DNP") alleging the infringement of the '682 and '711 Patents. *See* Complaint, Dkt. No. 1. The '682 and '711 Patents relate to a method of fabricating a liquid crystal display. Dkt. No. 81, Exs. A-B. Both the '682 and '711 Patents are reissue patents of Patent No. 5,576,070 ("the '070 Patent"), which was originally issued on November 19, 1996, and both the '682 and '711 Patents share a common specification. FN1 *Id*. On

November 17, 2008, ATI filed its Notice of Asserted Claims, limiting its asserted claims to Claims 16, 18, 20, 22, 25, 26, and 29 of the ' 682 Patent and Claims 4, 8, and 26 of the '711 Patent. Dkt. No. 79.

FN1. Accordingly, any reference to the specification will be to both specifications and will be denoted by "Col. ___, Line ___."

Defendants Sharp and DNP filed their answers on March 3, 2008. Dkt. Nos. 14, 17. Defendant Sharp alleges the affirmative defenses of failure to state a claim, non-infringement, invalidity, prosecution history estoppel, unclean hands, laches, acquiescence, waiver, estoppel, and 35 U.S.C. s.s. 286, 287, and 288. Dkt. No. 14. Defendant DNP alleges the affirmative defenses of non-infringement, invalidity, waiver, laches, estoppel, and equitable estoppel. Dkt. No. 17. Both Defendants Sharp and DNP also specifically allege that Claim 26 of the '711 Patent is invalid and that Claims 22, 25, 26, and 29 of the '682 Patent are invalid. Dkt. Nos. 83 at 20-23, 84 at 14-19, 113 at 8-9.

On December 23, 2008, the Parties filed their original Joint Claim Construction Chart. Dkt. No. 93. Thereafter, the Parties filed an amended Joint Claim Construction Chart. Dkt. No. 105. Finally, on February 12, 2009, the Parties filed a second amended Joint Claim Construction Chart ("Chart"). Dkt. No. 113. This Chart is dated January 20, 2009. *Id*. This Chart is the claim construction chart currently before this Court and will be referenced throughout this claim construction.

On January 21, 2009, this Court held a technical tutorial. During this technical tutorial, all parties were given the opportunity to explain the technology described in these patents. On January 22, 2009, this Court conducted a claim construction hearing. During this hearing, all parties were given the opportunity to offer and explain their proposed claim constructions for the disputed claims.

## II. LEGAL PRINCIPLES OF CLAIM CONSTRUCTION

A determination of patent infringement involves two steps. First, the patent claims are construed, and second, the claims are compared to the allegedly infringing device. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1455 (Fed.Cir.1998) ( *en banc* ).

The legal principles of claim construction were reexamined by the Federal Circuit in Phillips v. AWH Corp., 415 F.3d 1303 (Fed.Cir.2005) ( *en banc* ). Reversing a summary judgment of non-infringement, an *en banc* panel specifically identified the question before it as: "the extent to which [the court] should resort to and rely on a patent's specification in seeking to ascertain the proper scope of its claims." Id. at 1312. Addressing this question, the Federal Circuit specifically focused on the confusion that had amassed from its recent decisions on the weight afforded dictionaries and related extrinsic evidence as compared to intrinsic evidence. Ultimately, the court found that the specification, "informed, as needed, by the prosecution history," is the "best source for understanding a technical term." Id. at 1315 (quoting Multiform Dessicants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed.Cir.1998)). However, the court was mindful of its decision and quick to point out that *Phillips* is not the end of the use of extrinsic evidence, stating:

[W]e recognized that there is no magic formula or catechism for conducting claim construction. Nor is the court barred from considering any particular sources or required to analyze sources in any specific sequence, as long as those sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence.

Phillips, 415 F.3d at 1324 (citations omitted).

Consequently, this Court's reading of *Phillips* is that the Federal Circuit has returned to the state of the law prior to its decision in Texas Digital Sys. v. Telegenix, Inc., 308 F.3d 1193 (Fed.Cir.2002), allotting far great deference to the intrinsic record than to extrinsic evidence. "[E]xtrinsic evidence cannot be used to vary the meaning of the claims as understood based on a reading of the intrinsic record." Phillips, 415 F.3d at 1319.

Additionally, the Federal Circuit in *Phillips* expressly reaffirmed the principles of claim construction as set forth in Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed.Cir.1995) ( *en banc* ), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576 (Fed.Cir.1996), and Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc., 381 F.3d 1111 (Fed.Cir.2004). Thus, the law of claim construction remains intact. Claim construction is a legal question for the courts. Markman, 52 F.3d at 979. The claims of a patent define that which "the patentee is entitled the right to exclude." Innova, 381 F.3d at 1115. The claims are "generally given their ordinary and customary meaning" as understood by "a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips,* 415 F.3d 131.3. However, the Federal Circuit stressed the importance of recognizing that the person of ordinary skill in the art "is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Phillips, 415 F.3d at 1313.

With regard to extrinsic evidence, the *Phillips* decision explains how each source, the claims, the specification as a whole, and the prosecution history, should be used by courts in determining how a skilled artisan would understand the disputed claim term. *See, generally, id*. at 1314-17. The court noted that the claims themselves can provide substantial guidance, particularly through claim differentiation. Using an example taken from the claim language at issue in *Phillips,* the Federal Circuit observed that "the claim in this case refers to 'steel baffles,' which strongly implies that the term 'baffles' does not inherently mean objects made of steel." *Id*. at 1314. Thus, in the "context in which a term is used in the asserted claim can often illuminate the meaning of the same term in other claims." *Id*. Likewise, other claims of the asserted patent can be enlightening, for example, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id*. at 1315. (citing Liebel-Flarsheim Co. v. Medrads, Inc., 358 F.3d 898, 910 (Fed.Cir.2004)).

Still, the claims "must be read in view of the specification, of which they are part." Markman, 52 F.3d at 978. In *Phillips,* the Federal Circuit reiterated the importance of the specification, noting that "the 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, 90 F.3d at 1582). To emphasize this position, the court cited extensive case law, as well as "the statutory directive that the inventor provide a 'full' and 'exact' description of the claimed invention." *Id*. at 1316 (citing Merck & Co., Inc. v. Teva Pharms. USA, Inc., 347 F.3d 1367, 1371 (Fed.Cir.2003)); *see also* 35 U.S.C. s. 112, para. 1. Consistent with these principles, the court reaffirmed that an inventor's own lexicography and any express disavowal of claim scope is dispositive. *Id*. at 1316. Concluding this point, the court noted the consistency with this approach and the issuance of a patent from the Patent and Trademark Office and found that "[i]t is therefore entirely appropriate for a court, when conducting claim construction, to rely heavily on the written description for guidance as to the meaning of the claims." *Id*. at 1317.

Additionally, the *Phillips* decision provides a terse explanation of the prosecution history's utility in construing claim terms. The court simply reaffirmed that "the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id* (citing Vitronics, 90 F.3d at 1582-83). It is a significant source for evidencing how the patent office and the inventor understood the invention. *Id*.

The prosecution history can also provide a basis for determining whether prosecution disclaimer should attach. "[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Omega Eng'g,* 334 F.3d at 1326. The Federal Circuit has "declined to apply the doctrine of prosecution disclaimer where the alleged disavowal of claim scope is ambiguous." *Id*. at 1324.

Finally, the Federal Circuit curtailed the role of extrinsic evidence in construing claims. In pointing out the less reliable nature of extrinsic evidence, the court reasoned that such evidence (1) is by definition not part of the patent, (2) does not necessarily reflect the views or understanding of a person of ordinary skill in the relevant art, (3) is often produced specifically for litigation, (4) is far reaching to the extent that it may encompass several views, and (5) may distort the true meaning intended by the inventor. *See id*. at 1318. Consequently, the Federal Circuit expressly disclaimed the approach taken in *Texas Digital*. While noting the *Texas Digital* court's concern with regard to importing limitations from the written description, "one of the cardinal sins of patent law," the Federal Circuit found that "the methodology it adopted placed too much reliance on extrinsic sources such as dictionaries, treatises, and encyclopedias and too little on intrinsic sources, in particular the specification and prosecution history." *Id*. at 1320. Thus, the court renewed its emphasis on the specification's role in claim construction.

Many other principles of claim construction, though not addressed in *Phillips,* remain significant in guiding this Court's charge in claim construction. The Court is mindful that there is a "heavy presumption" in favor of construing claim language as it would be plainly understood by one of ordinary skill in the art. Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999); *cf. Altiris, Inc. v. Symantec Corp.,* 318 F.3d 1364, 1372 (Fed.Cir.2003) ("[S]imply because a phrase as a whole lacks a common meaning does not compel a court to abandon its quest for a common meaning and disregard the established meaning of the individual words.") The same terms in related patents are presumed to carry the same meaning. *See* Omega Eng'g Inc. v. Raytek Corp., 334 F.3d 1314, 1334 (Fed.Cir.2003) ("We presume, unless otherwise compelled, that the same claim term in the same patent or related patents carries the same construed meaning.") "Consistent use" of a claim term throughout the specification and prosecution history provides "context" that may be highly probative of meaning and may counsel against "[b]roadening of the ordinary meaning of a term in the absence of support in the intrinsic record indicating that such a broad meaning was intended ...." Nystrom v. TREX Co., 424 F.3d 1136, 1143-46 (Fed.Cir.2005).

Claim construction is not meant to change the scope of the claims but only to clarify their meaning. Embrex, Inc. v. Serv. Eng'g Corp., 216 F.3d 1343, 1347 (Fed.Cir.2000) ("In claim construction the words of the claims are construed independent of the accused product, in light of the specification, the prosecution history, and the prior art.... The construction of claims is simply a way of elaborating the normally terse claim language[ ] in order to understand and explain, but not to change, the scope of the claims.") (citations and internal quotations omitted).

Regarding claim scope, the transitional term "comprising," when used in claims, is inclusive or open-ended

and "does not exclude additional, unrecited elements or method steps." CollegeNet, Inc. v. ApplyYourself, Inc., 418 F.3d 1225, 1235 (Fed.Cir.2005) (citations omitted). Claim constructions that would read out the preferred embodiment are rarely, if ever, correct. Vitronics, 90 F.3d at 1583-84.

Furthermore, as noted above and as required by *Markman,* courts have a duty to construe claims as a matter of law. In *02 Micro International Limited v. Beyond Innovation Technology Company Limited,* the Federal Circuit again emphasized that the courts have a duty to resolve disputes by the parties regarding the construction of claims. 521 F.3d 1351, 1360 (Fed.Cir.2008) (holding that "[w]hen the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute") (citing Markman, 52 F.3d at 979). By requiring that courts construe terms in dispute, the Federal Circuit in *02 Micro* also recognized that the "district courts are not (and should not be) required to construe *every* limitation present in a patent's asserted claims." *Id.* at 1362.

The *02 Micro* case also permits courts, in resolving disputes between the parties, to construe contested terms as having their ordinary meaning. *See, e.g., Input/Output, Inc. et al. v. Sercel, Inc.,* 5:06-cv-00236, Dkt. No. 111 at 19 (holding that "[a] court may decline to adopt constructions that violate claim construction doctrine, such as improperly importing limitations, and may still construe terms to have their ordinary meaning") (citing *02 Micro Int'l Ltd.,* 2008 U.S.App. Lexis 7053 at *19).

Following the legal principles outlined above, this Court now turns to the patents-in-suit.

## III. THE PATENTS-IN-SUIT

As set forth above, ATI alleges that Defendants infringe on the '682 Patent and '711 Patent. *See* Dkt. No. 81. As noted above, on November 17, 2008, ATI filed its Notice of Asserted Claims, limiting its asserted claims to Claims 16, 18, 20, 22, 25, 26, and 29 of the '682 Patent and Claims 4, 8, and 26 of the ' 711 Patent. Dkt. No. 79.

The patent application for the '682 Patent was filed on November 16, 1999. Dkt. No. 81, Ex. B. The '682 Patent issued on April 30, 2002, listing Zvi Yaniv as the inventor. *Id.* As noted above, the '682 Patent was a reissue of the '070 Patent. The Abstract of the '682 Patent reads as follows:

A light influencing element and the process of fabricating the same is disclosed, wherein the light influencing element is fabricated by disposing a layer of a substantially opaque material upon a transparent substrate. One or more openings or wells may then be cut or formed in the surface of the layer of opaque material. Into such openings a light influencing material is then disposed, preferable said materials are injected thereinto as by ink-jet type injection heads. Liquid crystal displays and subassemblies formed upon the light influencing elements of the instant invention are also provided.

Disputed Claims 16, 18, 20, 22, 25, 26, and 29 of the '682 Patent are set forth as follows.

16. A method as in claim 14, wherein said plurality of openings are arranged in rows and columns.

Claim 14 provides as follows:

A method of fabricating a liquid crystal display, said method comprising the steps of:

providing a substantially transparent first substrate member;

disposing a layer of substantially opaque material upon one side of said first substrate;

forming at least three openings through said layer of substantially opaque material;

injecting a light influencing material as a non-solid state including first, second, and third colors in said at least three openings directly on the first substrate;

curing said injected material to a solid state;

disposing a continuous layer of a transparent, passivating material atop said layer of opaque material and said light influencing material;

disposing a layer of transparent, conductive material atop said passivating layer;

providing a second substantially transparent substrate member having a layer of a transparent conductive material disposed on one surface thereof, said second substrate being spacedly disposed from said first substrate and arranged so that the layer of transparent conductive material of the second substrate faces the layer of transparent conductive material of the first substrate; and

disposing a layer of liquid crystal material between said first and second substrates.

18. A method of fabricating a liquid crystal display, said method comprising the steps of:

providing a substantially transparent first susbstrate member;

disposing a layer of substantially opaque material upon one side of said first substrate;

forming a plurality of openings including at least three openings through said layer of substantially opaque material;

injecting a light influencing material including first, second, and third colors in said at least three openings directly on the first substrate;

repeating said injecting process until all of the plurality of openings have been filled;

disposing a continuous layer of a transparent, passivating material atop said layer of opaque material and said light influencing material;

disposing a layer of transparent, conductive material atop said passivating layer;

providing a second substantially transparent substrate member having a layer of a transparent conductive material disposed on one surface thereof, said second substrate being spacedly disposed from said first substrate and arranged so that the layer of transparent conductive material of the second substrate faces the layer of transparent conductive material of the first substrate; and

disposing a layer of liquid crystal material between said first and second substrates.

20. A method as in claim 18, wherein said plurality of openings are arranged in rows and columns.

22. A method of fabricating a liquid crystal display, said method comprising the steps of:

providing a substantially transparent first substrate member;

disposing a layer of substantially opaque material upon one side of said first substrate;

forming at least one opening through said layer of substantially opaque material;

disposing a light influencing material in said at least one opening;

disposing a continuous layer of a transparent, passivating material atop said layer of opaque material and said light influencing material;

disposing a layer of transparent, conductive material atop said passivating layer;

providing a second substantially transparent substrate member having a continuous layer of a transparent conductive material disposed on one surface thereof, said second substrate being spacedly disposed from said first substrate and arranged so that the layer of transparent conductive material of the second substrate faces the layer of transparent conductive material of the first substrate;

patterning the continuous layer of transparent conductive material; and

disposing a layer of liquid crystal material between said first and said second substrates.

25. A method as in claim 24, wherein the opaque material is disposed to a thickness between 1.0 and 10.0 (mu)m.

Claim 24 provides as follows:

A method as in claim 22, wherein the step of disposing a layer of substantially opaque material

upon said substrate includes the further step of disposing said material to a thickness of between 0.10 and 100.0 (mu)m.

26. A method as in claim 22, wherein the step of forming at least one opening through said layer of substantially opaque mateiral is accomplished by employing a method selected from the group of a high power laser, a photolithographic etch process, and combinations thereof.

29. A method as in claim 22, wherein the step of disposing a light influencing material into said at least one opening includes the further steps of:

providing a light influencing material in a non-solid phase having the optical characteristics thereof optimized for a desired application; injecting a sufficient amount of said light influencing material into said

openings so as to achieve a desired light influencing effect; and

curing said non-solid light influencing material to a the solid phase.

The patent application for the '711 Patent was also filed on November 18, 1998. Dkt. No. 81, Ex. B. The '711 Patent was issued on May 23, 2000, listing Zvi Yaniv as the inventor. *Id*. As noted above, the '711 Patent was a reissue of the '070 Patent. The '711 Patent has the same abstract as the ' 682 Patent (stated above).

Disputed Claims 4, 8, and 26 of the '711 Patent are set forth as follows.

4. A method as in claim 3, wherein the opaque material is disposed to a thickness between 1.0 and 10.0 (mu)m.

Claim 3 provides as follows:

A method as in claim 1, wherein the step of disposing a layer of substantially opaque material upon said substrate includes the further step of disposing said material to a thickness of between 0.10 and 100.0 (mu)m.

Claim 1 provides as follows:

A method of fabricating a liquid crystal display subassembly, said method comprising the steps of:

providing a substantially transparent substrate member;

disposing a layer of substantially opaque material upon one side of said substrate, said substantially opaque material being a black polyimide material;

forming at least one opening through said layer of substantially opaque material;

disposing a light influencing material in said at least one opening;

disposing a continuous layer of a transparent, passivating material atop said layer of opaque material and said light influencing material; and

disposing a layer of transparent, conductive material atop said passivating layer.

8. A method as in claim 1, wherein the step of disposing a light influencing material into said at least one opening includes the further steps of:

Providing a light influencing material in a non-solid phase having the optical characteristics thereof optimized for a desired application; injecting a sufficient amount of said light influencing material into said openings so as to achieve a desired light influencing effect; and

curing said non-solid light influencing material to the solid phase.

26. A method of fabricating a liquid crystal display said method comprising the steps of:

providing a substantially transparent first substrate member;

disposing a layer of substantially opaque material upon one side of said first substrate;

forming an opening through said layer of substantially opaque material;

injecting a light influencing material in said opening;

disposing a layer of transparent conductive material over said light influencing material;

providing a second substantially transparent substrate member having a continuous layer of a transparent conductive material disposed on one surface thereof, said second substrate being spacedly disposed from said first substrate and arranged so that the layer of transparent conductive material of the second substrate faces the layer of transparent conductive material of the first substrate; and

disposing a layer of liquid crystal material between said first and second substrates; wherein the method does not use a photolithography process to form the opening in the light influencing material.

In their Chart, the Parties have reduced the disputed terms to thirteen different disputed "claim elements." Dkt. No. 113. These disputed claim elements which will be discussed in this claim construction are as follows:

1. "Disposing a layer of substantially opaque material upon one side of said (first) substrate" (all asserted claims)

2. "Said substantially opaque material being a black polyimide material" ('711, claims 4 and 8)

3. "Forming ... opening(s) through said layer of substantially opaque material" (all asserted claims)

4. "Injecting a light influencing material ... in(to) said ... opening(s) (directly on the first substrate)" ('682, claims 16, 18, 20, and 29; '711, claims 8 and 26)

5. "Repeating said injecting process until all of the plurality of openings have been filled" ('682, claims 18 and 20)

6. "Disposing a light influencing material in said at least one opening" ('682, claims 22, 2.5, and 26; '711, claim 4)

7. "Disposing a continuous layer of transparent, passivating material atop said layer of opaque material and said light influencing material" ('682, all asserted claims; '711, claims 4 and 8)

8. "Disposing a layer of transparent, conductive material atop said passivating layer" ('682, all asserted claims; '711, claims 4 and 8)

9. "Providing a second substantially transparent substrate member having a continuous layer of transparent

conductive material disposed on one surface thereof, said second substrate being spacedly disposed from said first substrate and arranged so that the layer of transparent conductive material of said second substrate faces the layer of transparent conductive material of the first substrate" ('682, claims 22, 25, 26, and 29; '711, claim 26)

10. "Patterning the continuous layer of transparent conductive material" ('682, claims 22, 25, 26, and 29)

11. "Providing a second substantially transparent substrate member having a layer of a transparent conductive material disposed on one surface thereof, said second substrate being spacedly disposed from said first substrate and arranged so that the layer of transparent conductive material of the second substrate faces the layer of transparent conductive material of the first substrate" ('682, claims 16, 18, and 20)

12. "Wherein the method does not use a photolithography process to form an opening in the light influencing material" ('711, claim 26)

13. "Rows and columns" ('682, claims 16 and 20)

On October 29, 2007, ATI filed the present Complaint. Dkt. No. 1. Thereafter, the USPTO approved a Certificate of Correction changing part of Claim 26 from "to form *the* opening in the light influencing material" to "to form *an* opening in the light influencing material." This certificate of correction was adopted on January 15, 2008. DNP disputes whether this certificate of correction was properly approved. Dkt. No. 84 at 14-18. As more fully discussed below, the issue of whether this certificate of correction was properly approved will not be addressed at this stage of the litigation.

## IV. CLAIM CONSTRUCTION-THE '682 PATENT

As noted above, both the '682 and '711 Patents are reissue patents of the' 070 Patent. In their Chart, the Parties also suggest a common construction for the disputed terms in the '682 and '711 Patents. Dkt. No. 113. Accordingly, this Court will construe disputed terms in the '682 and '711 together as set forth below and in order of the disputed claim elements. FN2

FN2. The disputed claim elements which appear in the '711 Patent that do not appear in the '682 Patent are claim elements 2 and 12. Therefore, those will be addressed separately in the next section.

Furthermore, as an initial matter, Defendants do not dispute ATI's proposed construction of "rows and columns" ('682, Claims 16 and 20).FN3 Therefore, this Court adopts ATI's construction of this term. The Parties also do not dispute the following: (1) that the term "placing" should be used for the term "disposing" (all asserted claims) (2) that "material, that substantially prevents transmission (or passage) of light" should be used for "substantially opaque material" (all asserted claims); or (3) that "light influencing material" is "a material that influences the optical characteristics of light. The light influencing material cannot be the substantially opaque material" (all asserted claims). Dkt. No. 113. Therefore, this Court adopts the Parties' agreed construction on these terms. The Court construes the contested terms as follows.

FN3. In the Parties' Chart, DNP and Sharp did dispute ATI's proposed construction of this term. Dkt. No. 113. However, in DNP's Responsive Claim Construction Brief, DNP did not dispute ATI's construction of this term. Dkt. No, 84 at 29. Sharp concurs with DNP's proposed construction of "rows and columns" and

does not argue for any specific construction in its claim construction response. Dkt. No. 113 at 12. Therefore, because there is no longer a dispute regarding the construction of "rows and columns," this Court adopts ATI's proposed construction for "rows and columns."

**1. "Layer" (all asserted claims) (Claim Elements 1, 7, 8)**

**a. The Parties' Positions**

ATI proposes that the ordinary meaning of the term "layer" be adopted. Dkt. No. 81 at 7-8. Defendants, however, propose that the term "layer" should construed as "a separate and distinct layer." Dkt. Nos. 8.3 at 6-9; 84 at 10-14, 19-20. Specifically, Sharp argues that the terms "upon" and "atop" support this proposed construction for "layer." Dkt. No. 83 at 6-9. Sharp argues that a "layer" disposed "upon" or "atop" some other material must be "separate and distinct" from what it is disposed "upon" or "atop." *Id*. Sharp relies upon the patent drawings and specification to support its claim that a "layer" should be considered "separate and distinct." *Id*. at 7. Sharp also argues that if its proposed construction for "layer" is not adopted, then a "layer" could be arbitrarily drawn "so that it is indistinct from other layers and can be intermixed with or made from the same materials as other layers." *Id*.

DNP argues that the plain meaning of the term "layer" supports a construction that a "layer" must be "separate and distinct" from other layers. Dkt. No. 84 at 10-14, 19-20. DNP also argues that the specification, claims, prosecution history, and patent drawings support such a construction. *Id*. at 10-11. By way of example, DNP argues that because the layer of substantially opaque material is, by definition, *not transparent,* it must be "separate and distinct" from the *transparent* first substrate. *Id*. at 19-20.

In response to Defendants' arguments, ATI argues that importing the limitation that a layer be "separate and distinct" is improper and contradicts the ordinary meaning of the term "layer." Dkt. Nos. 81 at 7-8, 88 at 7-8. ATI argues that the words "separate and distinct" are not included anywhere in the claims, the specification, or the prosecution history and that the terms "separate and distinct" are never defined for the jury. Dkt. No. 88 at 7-8. ATI also argues that with the construction of "layer" being a "separate and distinct" layer, Defendants leave no room for a situation where the first layer may incidentally or partially "blend" into a second layer that the first layer is placed "upon" or "atop." *Id*.

In its Sur-Reply Brief, Sharp reiterates its argument that the limitation of "separate and distinct" is consistent with the plain meaning of the term "layer." Dkt. No. 91 at 1. DNP argues that if a "layer" is not considered "separate and distinct," then the '682 and '711 Patents cannot be distinguished from the prior art. Dkt. No. 90 at 2.

**b. Construction**

There are two concerns that must be addressed in determining whether the claim term "layer" should be construed as "separate and distinct." First, there is the concern that adopting such the construction of "separate and distinct" would unjustifiably and unnecessarily restrict the scope of the claims. Such unjustified and needless restrictions are specifically prohibited by *Phillips* and the Federal Circuit's caselaw. Phillips, 415 F.3d at 1312 ("if we once begin to include elements not mentioned in the claims, in order to limit such claim ... we should never know where to stop") (quoting McCarty v. Lehigh Valley R.R. Co., 160 U.S. 110, 116, 16 S.Ct. 240, 40 L.Ed. 358 (1895)). This is especially a concern in this case where Defendants have offered no definition or proposed construction for the terms "separate" or "distinct," and

the '682 and '711 Patents do not include the terms "separate and distinct" anywhere in the claims or in the specification. Counsel for Sharp even admitted at the claim construction hearing that the words "separate and distinct" appear nowhere in the '682 or '711 Patents:

**The Court:** Mr. Adams, does the term "separate and distinct" appear anywhere in either 682 or 711?

**Mr. Adams:** Those exact words do not, Your Honor. However, everything in the patent is consistent with that meaning ...

Claim Construction Hearing Transcript ("Hearing Transcript") at 45-46.

Second, as raised by Defendants, there is the concern that, unless this Court adopts their proposed construction that a "layer" is "separate and distinct," the term "layer" may be rendered meaningless. For example, if a "layer" were not considered "separate and distinct," then the Parties could argue at trial that the term "layer" be interpreted as several layers which are co-mingled and which are not considered either separate or distinct. Such a construction would contradict the ordinary meaning of the term "layer." Vitronics, 90 F.3d at 1582; *Phillips,* 415 F.3d 1313. This is especially true where, as here, the intrinsic evidence supports a construction that the layers are "separate." For example, in both the '682 and '711 Patents, the inventor chose to use the words "upon" and "atop" to describe where the layers are placed. *See, e.g.,* Col. 11, Line 29. Such terminology indicates that one layer is separate from another layer. Additionally, the inventor detailed the process for forming this liquid crystal display which involves placing several different types of layers upon other layers. *See, e.g.,* '682 Patent, Col. 11, Lines 17-45 (Claim 22 of the '682 Patent). This terminology also indicates that the layers should be considered "separate."

Accordingly, this Court finds that the proper construction for the term "layer" is a "separate layer." Claim Element 1 is construed to read as follows: "Placing a separate layer of material, that substantially prevents transmission (or passage) of light, upon one side of the first substrate." Claim Elements 7 and 8 are also construed to include the word "separate" before the term "layer." FN4 In adopting this construction, this Court does not find that the layers must be entirely separate such that there could never be microscopic or incidental overlap between the layers. Such a minuscule overlap would be consistent with this Court's construction that these layers are still considered "separate" layers.FN5

FN4. Claim Elements 7 and 8 will be more thoroughly addressed later in this construction.

FN5. In its sur-reply brief, even Sharp recognized that with such a small overlap, the layers would still remain "different elements and layers." Dkt. No. 91 at 1. At the claim construction hearing, DNP also recognized that these layers would have some amount of overlap: "Sure, there's going to be some type of adhesion between the two different surfaces," Hearing Transcript at 100.

Finally, it is also important to note that, at the claim construction hearing, ATI suggested that the term "separate" is not appropriate because the layers in these patents are defined in terms of *functions,* not in terms of *chemical composition*. Hearing Transcript at 102. Because of this distinction, ATI suggested that instead of the term "separate," a more appropriate term is "distinguishable." *Id*. Specifically, ATI stated that the term "distinguishable" is more appropriate due to the following: "It's not terms of exact separateness and no one that is skilled in the art would understand when these layers are put down there is some sort of, you

know, precise line of demarcation between these layers." *Id.*

This Court notes three problems with ATI's proposal to adopt the term "distinguishable." First, while these layers are defined in terms of their functions ( *e.g.,* "conductive layer"), the inventor used the terms "atop" and "upon" to define the placement of the layers. The plain meaning of the terms "atop" and "upon" indicate that this process involves placing one layer on another layer and that although there may not be a "precise line of demarcation," the layers are considered separate layers. Second, ATI's suggested term "distinguishable" is too vague to provide any guidance to the jury in construing these claims. Markman, 52 F.3d at 979 (holding that claim construction is decided as a matter of law by the courts). Specifically, ATI provided no proposed construction for the term "distinguishable," and there is no indication if the layers are to be considered chemically, functionally, spatially, or otherwise "distinguishable."

Third, the specification and the patent drawings in the '682 and '711 Patents support Defendants' argument that these layers are not only "distinguishable" but are "separate." As noted in *Phillips,* intrinsic evidence (including the specification) is "highly relevant" to the claim construction analysis. Phillips, 415 F.3d at 1315. In the present case, the specification separately describes and separately explains the different layers in the '682 and '711 Patents. *See, e.g.,* Col. 4, Lines 50-67. For example, the inventor detailed the placement of separate layers in the specification: "Disposed upon said substrate **12** is a layer of substantially opaque material **14**" (Col. 4, Lines 50-51) and "Thereafter, a layer of a transparent, conductive material, such as a transparent conductive oxide material **30** of FIG. 3B, is disposed upon the passivation layer **26**" (Col. 7, Lines 39-41). The inventor also explained forming openings in a separate layer: "Formed in said layer of substantially opaque material **14** is at least one opening **16** which extends through said layer **14** to the substrate." (Col. 5, Lines 1-2). Accordingly, these descriptions in the specification provide support for this Court's construction that these layers should be considered *separate*.

The patent drawings, another type of intrinsic evidence, also provide further support for a construction that these are separate layers. While these drawings may not be used to define the "precise proportions of the elements," "may not be relied on to show particular sizes," and may not be used to import limitations from the specification to the claims, the drawings are a part of the intrinsic evidence that may be used to inform this Court's construction of the terms in this patent. Hockerson-Halberstadt, Inc. v. Avia Group Int'l, 222 F.3d 951, 956 (Fed.Cir.2000) (holding that the patent drawings should not be relied upon as being "drawn to scale"); MBO Laboratories, Inc. v. Becton, Dickinson & Co., 474 F.3d 1323, 1333 (Fed.Cir.2007) (relying upon the intrinsic record, including the figures in the patent, to support its reversal of the district court's claim construction). This is especially true where, as here, the drawings include solid lines indicating separate layers, and the language in the claims and the specification use terms such as "upon" and "atop" which define a separateness between the layers.

**2. "Openings" verses " 'hole' or 'gap' entirely through to the substrate" (all asserted claims) (Claim Element 3)**

**a. The Parties' Positions**

ATI proposes that the term "opening" be left with its plain meaning. Dkt. No. 81 at 9-10. In other words, ATI proposes that "Forming ... opening(s) through said layer of substantially opaque material" remain unchanged. *Id.* Defendants, however, propose that the term "opening" be construed as a "hole" or "gap." FN6 Dkt. No. 84 at 21-22. In support of this proposed construction, DNP cites to "thefreedictionary.com" and *Random House Unabridged Dictionary*. *Id.* Defendants also contend that these openings must extend entirely through to the substrate. *Id.* They refer to the specification and to the patent drawings in support of

their claim that these openings must extend entirely through to the substrate. *Id*. They claim that if the construction of "entirely through to the substrate" is not adopted, then ATI is permitted the opportunity of arguing that there may be intervening layers present between the substantially opaque material and the first substrate. *Id*.

FN6. Sharp provides no briefing on this issue. Dkt. No. 83. Instead, in the Chart, Sharp states that it "agrees with DNP" on its proposed construction, Dkt. No. 113.

In its reply brief, ATI argues that adopting Defendants' proposed construction would add the extraneous requirement that these openings must extend entirely through to the substrate. Dkt. No. 88 at 12-13. ATI argues that such a construction would violate two patent claim construction principles. *Id*. First, such a construction would deny "the possibility of layers intervening between the substrate and the substantially opaque material." *Id* . Second, by adopting such a construction, this Court would be improperly importing a limitation from the specification to the claims. *Id*.

**b. Construction**

There are two issues present with the Parties' proposed construction of this claim element. First, whether the term "opening(s)" should be construed to be "hole(s)" or "gap(s)." Second, whether these "opening(s)" should extend "entirely through to the substrate." Both the specification and the claim language support leaving the term "opening(s)" with its plain meaning and not including the added limitation that these "opening(s)" must extend entirely through to the substrate.

**(1) "Opening(s)" versus "hole(s)" or "gap(s)"**

This Court finds that the term "opening(s)" should not be limited to "hole(s)" or "gap(s)." Although Defendants argue that the term "hole" or "gap" should be used in place of the word "opening(s)," there is no indication that the terms "hole" or "gap" are included anywhere in either patent. Defendants also provide no proposed construction for either term. Instead, Defendants use two non-technical dictionaries to support this proposed construction for the term "opening(s)." Dkt. No. 84 at 21-22. As noted below, such dictionaries do not necessarily provide the "ordinary and customary meaning" as "a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Phillips, 415 F.3d at 1313.

Accordingly, this Court is not required to adopt such a proposed, potentially erroneous construction. This is especially true where, as here, the specification provides that these "opening(s)" may be "elongated strips." Col. 5, Lines 11-13. Such "elongated strips" may or may not be considered "hole(s)" or "gap(s)."

**(2) Entirely through to the substrate**

This Court finds these "opening(s)" need not extend "entirely through to the substrate" for two reasons. First, in the specification, the term "opening" is used very broadly and is not limited to openings extending entirely through to the substrate. For example, in one embodiment, the "opening" can extend "through said layer to the substrate." Col. 5, Lines 1-3. However, in the same paragraph, the "openings may be formed as one or more elongated strips," and there is no indication in this part of the specification that these elongated strips must extend through to the substrate.FN7 Col. 5, Lines 11-13. Accordingly, because only one embodiment provides for the limitation that the "opening(s)" extend entirely through to the substrate while it

appears that at least one other does not, it would be improper for this Court to import such a limitation from one embodiment to the claims. SuperGuide v. DirectTV Enters., Inc., 358 F.3d 870, 875 (Fed.Cir.2004) (holding that a "particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.").

FN7. It is particularly telling that after the first embodiment is listed, the inventor uses the term "[a]lternatively" to then describe the "openings" as "elongated strips": "Alternatively, the openings may be formed as one or more elongated strips in the layer of substantially opaque material." *Id*. The word "[a]lternatively" tends to indicate that one embodiment provides for opening(s) entirely through to the substrate while the other does not.

Second, in the disputed claims of the '682 and '711 Patents, the word "comprising" is used. *See, e.g.,* '682 Patent, Col. 10, Lines 13-45 (Claims 14 and 16 of the '682 Patent). When the term "comprising" is used in claims, it is open-ended and "does not exclude additional, unrecited elements or method steps." CollegeNet, Inc., 418 F.3d at 1235. In other words, the drafter uses the term "comprising" to mean "I claim at least what follows and potentially more." Vehicular Technologies Corp. v. Tital Wheel Intern., Inc., 212 F.3d 1377, 1383 (Fed.Cir.2000). *See also* Genentech, Inc. v. Chiron Corp., 112 F.3d 495, 501 (Fed.Cir.1997). For this Court to adopt Defendants' proposed construction that these "opening(s)" extend "entirely through to the substrate," this Court would be required to exclude the possibility that there could be intervening steps or layers in these inventions. Such a construction is directly contrary to the term "comprising," which would provide for such a possibility of intervening steps or layers. Accordingly, this Court finds that ATI's proposed construction and the plain meaning of this disputed term should be adopted. Claim Element 3 is construed to read as follows: "Forming ... opening(s) through said layer of substantially opaque material." FN8

FN8. In adopting this construction, this Court is mindful of the requirements of *02 Micro* as outlined in the "legal principles" section of the claim construction. In construing this claim element and the other claim elements throughout this opinion where the plain meaning is adopted, this Court is not refusing to construe these claims. Instead, this Court has resolved the parties' disputes and has found the plain meaning of the disputed terms in the claims to be the best construction.

**3. "Injecting" versus "using a nozzle or other point source injecting mechanism to force ..." ('682 Patent, claims 16, 18, 20, and 29; '711 Patent, claims 8 and 26) (Claim Element 4)**

**a. The Parties' Positions**

ATI proposes that the plain meaning of the term "injecting" be used. Dkt. No. 81 at 11-12. Specifically, ATI argues that the following construction should be adopted: "Injecting a light influencing material ... in said ... opening(s)." *Id*. Defendants, however, argue that the term "injecting" refers to "[u]sing a nozzle or other point source injecting mechanism to force ..." FN9 Dkt. No. 84 at 22-24. DNP argues that such a construction is supported by the definition of "inject" in *Webster's New World College Dictionary*. *Id*. DNP argues that such a construction is also supported by the specification which "discloses nozzles as an example" of an injection mechanism. *Id* . DNP argues that by using the phrase "other point source injecting mechanism," it is not limiting the mechanism for "injecting" to the one disclosed in the specification-injecting by use of a nozzle-but is expanding the injection process to include other types of injection mechanisms (including syringes and hypodermic needles). *Id*.

FN9. Sharp provides no briefing on this issue. Dkt. No. 83. Instead, in the Chart, Sharp states that it "agrees with DNP." Dkt. No. 113 at 2-3.

In response to Defendants' arguments, ATI argues that the claims do not limit the type of mechanism used to accomplish the "injecting" step. Dkt. No. 81 at 11-12. ATI argues that even though one preferred embodiment includes injecting by use of a nozzle, the claims should not be limited to that preferred embodiment. *Id*. ATI also argues that the phrase "other point source injecting mechanism" is unclear and that Defendants have not provided a definition for that phrase. *Id*. ATI argues that neither the intrinsic nor extrinsic evidence supports the inclusion of the phrase "other point source injecting mechanism." Dkt. No. 88 at 8-10. ATI argues that the term "injecting" should be given its plain meaning because this term is sufficiently clear "in light of the specification that a jury may properly determine infringement and invalidity." *Id*.

In its sur-reply, DNP argues that the construction of "other point source injecting mechanism" should be adopted and that this phrase clearly refers to such injection mechanisms as "a nozzle, syringe, needle, etc." Dkt. No. 90 at 5.

**b. Construction**

Defendants' proposed construction that "injecting" should be limited to injecting "[u]sing a nozzle or other point source injecting mechanism to force ..." cannot be adopted for several reasons. First, as noted above, it is this Court's responsibility to construe claims and give them "their ordinary and customary meaning" as understood by "a person of ordinary skill in the art in question at the time of the invention." *Phillips,* 415 F.3d 1313. Defendants' only support for adopting the phrase "other point source injecting mechanism to force ..." is *Webster's New World College Dictionary*. Dkt. No. 84 at 22-23. Such a non-technical dictionary does not necessarily provide a definition for "injecting" as understood by "person of ordinary skill in the art in question at the time of the invention." Phillips, 415 F.3d at 1313. Furthermore, this dictionary definition does not even provide a definition for the phrase "other point source injecting mechanism." *Id*. Instead, this phrase has been offered by Defendants without explanation or definition.

Second, Defendants' proposed construction cannot be adopted because it would limit this "injecting" to *specific mechanisms*. Specifically, Defendants propose that this "injecting" be limited to injection through the use of a nozzle or "other point source injecting mechanism." Neither the specification nor the claim terms provide for such a limitation on the mechanism(s) used. In fact, apart from one preferred embodiment, Defendants provide little intrinsic evidence supporting this proposed construction. The phrase "other point source injecting mechanism" is also not included in the patent or defined in the specification or in the claims. The only guidance Defendants provide for "other point source injecting mechanism" is that this phrase may include syringes or hypodermic needles. Dkt. No. 90 at 5. Such injecting mechanisms do not appear relevant to these inventions, and Defendants provide no explanation for *how* such injecting mechanisms may be relevant to these inventions.

Accordingly, for Claim Element 4, the plain meaning is adopted and "[i]njecting" is not required to be accomplished by "[u]sing a nozzle or other point source mechanism to force ..." The other phrase related to Claim Element 4 is discussed below.

**4. "[I]n (to) said ... opening(s)" versus "into each hole" ('682 Patent, claims 16, 18, 20, and 29; '711 Patent, claims 8 and 26) (Claim Element 4)**

**a. The Parties' Positions**

Consistent with its argument regarding Claim Element 3, ATI argues that the phrase "in said ... opening(s)" should keep its plain meaning. Dkt. No. 81 at 13. As noted above, ATI argues that Claim Element 4 should be construed to read as follows: "Injecting a light influencing material ... in said ... opening(s)." *Id*. at 11-12. In response, Defendants argue that the phrase "in said ... opening(s)" be construed as "into each hole." FN10 Dkt. No. 84 at 24. DNP offers no affirmative support for its argument that this construction should be "into each hole." *Id*. Instead, it argues that this construction would not "render meaningless" Claim Element 5, which states "[r]epeating said injecting process until all of the plurality of openings have been filled." *Id*. DNP argues that Claim Element 5 would not be rendered meaningless because Claim Element 4 applies to all claims while Claim Element 5 only relates to "one inkjet embodiment." *Id*.

FN10. Sharp provides no briefing on this issue. Dkt. No. 83. Instead, in the Chart, Sharp states that it "agrees with DNP." Dkt. No. 113 at 2-3.

In response, ATI argues that this "injecting" is not required to be in *each* opening. Dkt. No. 81 at 12. ATI argues that such a construction would render Claim Element 5-"repeating said injecting process until all of the plurality of openings have been filled"-superfluous. *Id*. ATI also argues that the claims themselves provide for the creation of a "discrete number of openings" and that Claim Element 4 provides for injection into each of those discrete openings but that the injection is not required to be into *each or all* openings. Dkt. No. 88 at 9-10.

**b. Construction**

This Court cannot adopt Defendants' proposed construction for three reasons. First, the claims themselves provide that "each hole" need not be filled. Instead, the claims provide that only a *certain number* of openings be filled. Specifically, these disputed claims first provide for the creation of a specific number of openings, and then the claims provide that those openings be filled. For example, Claims 16, 18, and 20 of the '682 Patent provide that "at least three openings" be created and filled. Claim 29 of the '682 Patent provides that "at least one opening" be created and filled. None of these claims indicate that *each* or *all* openings must be filled as a part of this step.

Second, as a general rule, this Court should not adopt a construction that would render claim language in dependent claims meaningless. Rambus Inc. v. Infineon Technologies Ag, 318 F.3d 1081, 1093 (Fed.Cir.2003). If Claim Element 4 were construed to require injection into *each* or *all* openings, then Claim Element 5, which requires that "all of the plurality of openings have been filled," would be rendered meaningless. Therefore, for this reason, this Court should not adopt Defendants' proposed construction for Claim Element 4.

Third, Defendants' only support for its argument that "each hole" must be filled is in the specification in one embodiment. Dkt. No. 84 at 22-24. Specifically, Defendants argue the following:

The specification first and separately states that light influencing material is "[d]isposed in *each* of the openings 16" (Ex. A at 5:36 (emphasis added)). The repeating is only discussed in connection with one

inkjet embodiment, which includes the step of repeating the injection of ink into holes in the opaque material until all of them are filled. (Ex. A at 6:45-47 (emphasis added)).

*Id*. In making this argument, Defendants are attempting to improperly import limitations from the specification and embodiments into the claims. *Phillips,* 415 at 1323 (holding that "although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments"). This is especially a problem where, as here, the inventor used the term "comprising" in the claims that may allow for additional steps, including an additional step that more "opening(s)" are formed and/or filled between Claim Element 4 and Claim Element 5. CollegeNet, Inc., 418 F.3d at 1235. Accordingly, for Claim Element 4, the following construction is adopted: "Injecting a light influencing material ... in said ... opening(s)."

**5. "Repeating said injecting process until all of the plurality of openings have been filled" ('682 Patent, Claims 18 and 20) (Claim Element 5)**

**a. The Parties' Positions**

ATI proposes that the plain meaning of this claim element be adopted. Dkt. No. 81 at 13. Specifically, ATI proposes the following construction: "Repeating said injecting process until all of the plurality of openings have been filled." *Id*. However, Defendants propose the following construction: "Using a nozzle or other point source injecting mechanism to force light influencing material influencing material into each hole in the opaque material is repeated until all holes in the substantially opaque material are filled." FN11

FN11. Sharp provides no briefing on this issue. Dkt. No. 83. Instead, in the Chart, Sharp states that it "agrees with DNP." Dkt. No. 113 at 3.

**b. Construction**

The differences between ATI and Defendants' proposed constructions are as follows: (1) whether to include the "use of a nozzle or other point source injecting mechanism to force" and (2) whether "each hole" must be included. Both of these issues have been addressed previously in this claim construction. *See* Discussion, *supra*. Accordingly, these issues will not be addressed again. As noted above, this Court will not adopt either of Defendants' two proposed changes to the plain meaning of these terms. Therefore, the Court's construction for Claim Element 5 is as follows: "Repeating said injecting process until all of the plurality of openings have been filed."

**6. "Disposing a light influencing material in said at least one opening" ('682 Patent, claims 22, 25, and 26; '711 Patent, claim 4) (Claim Element 6)**

**a. The Parties' Positions**

ATI proposes that essentially the plain meaning of this claim element be adopted. Dkt. No. 81 at 1.3-14. Specifically, ATI proposes that the following construction be adopted: "Placing a light influencing material in said at least one opening." *Id*. The only difference between ATI's proposed construction and the plain meaning is that ATI suggests that the term "disposing" be replaced with the term "placing." *Id*. Defendants, however, propose the following construction: "Placing light influencing material in at least one hole in the substantially opaque material, in the proper order or arranged as by injection." FN12 Dkt. No. 84 at 24-25.

In support of this proposed construction, DNP uses *The American College Dictionary* to define the word "dispose." *Id*. DNP claims this definition supports a construction that this light influencing material "must be disposed in a particular arrangement or manner." *Id*.

FN12. Sharp provides no briefing on this issue. Dkt. No. 83. Instead, in the Chart, Sharp states that it "agrees with DNP." Dkt. No. 113 at 3.

In response, ATI argues that Defendants' proposed construction includes two additional and potentially erroneous limitations: (1) that the disposing is conducted in a special order and (2) that the disposing is achieved by injection. Dkt. No. 81, Pages 13-15. ATI also argues that if the "disposing" need only be in *one* opening, it is unclear what "order" would be used. *Id*.

**b. Construction**

As an initial matter, this Court has not adopted Defendants' proposed construction that the term "opening" be replaced with the term "hole." Therefore, this issue will not be addressed again. Additionally, Defendants' proposed construction that this process must be completed "in the proper order or arrangement as by injection" cannot be adopted for several reasons. First, the plain language of the claims themselves merely require that the "disposing" be in "at least one opening." If only one opening is required, it is unclear how the disposing could be done in any "proper order or arrangement." Accordingly, Defendants' proposed construction of this claim element contradicts this claim element's plain language.

Second, DNP's only support for this proposed construction is a non-technical dictionary that does not necessarily establish the "ordinary and customary meaning" for someone skilled in the art, and, accordingly, this Court is not required to adopt this proposed construction. Phillips, 415 F.3d at 1313. Third, these claims do not require that this step be completed by "injection." DNP argues that the specification supports such a construction that injection is required. *See, e.g.,* Col. 3, Lines 52-57. DNP is correct that *one preferred embodiment* provides for injection. *Id*. However, this restriction from one preferred embodiment should not be imported to the claim terms. *Phillips*, 415 at 1323. Accordingly, this Court rejects Defendants' proposed construction and adopts the following construction for Claim Element 6: "Placing a light influencing material in at least one opening."

**7. "Disposing a continuous layer of transparent, passivating material atop said layer of opaque material and said light influencing material" ('682 Patent, all asserted claims; '711 Patent, claims 4 and 8) (Claim Element 7)**

**a. The Parties' Positions**

ATI, Sharp, and DNP all offer different proposed constructions for this claim element.FN13 ATI proposes the following construction be adopted: "Placing a continuous layer of transparent, passivating material atop the layer of opaque material and the light influencing material." Dkt. No. 81 at 15-17. Sharp and DNP offer different proposed constructions. Sharp offers the following construction: "Placing a *separate and distinct* layer of transparent, passivating material *on top of* and *separate from* the layer of opaque material." (differences between this proposed construction and ATI's proposed construction are italicized). Dkt. No. 113 at 4-6. DNP proposes the following construction: "Placing a *separate and distinct* continuous layer of transparent, *electrically insulating* material *on top of* and *separate from* the layer of *material that prevents passage of light* and the light influencing material." (same). Accordingly, there are four differences between

the Parties' proposed constructions: (1) "separate and distinct layer"; (2) "electrically insulating"; (3) "on top of" and "separate from"; and (4) "layer of material that prevents passage of light." Each of these will be addressed in order in the next section.

FN13. The Parties also dispute the construction for "passivating material." This issue will be discussed in the next section.

**b. Construction**

**(1) "Separate and Distinct Layer"**

Defendants propose that the terms "separate and distinct" should be included prior to the phrase "layer of transparent, passivating material." Dkt.No. 113 at 4-6. ATI opposes this proposed construction and proposes that just the term "layer" be adopted with its plain meaning. *Id*. As noted in this Court's previous discussion of the term "layer," only the term "separate" should be included before the term "layer." *See* Discussion, *supra*. This Court adopts the same construction for this claim element.

**(2) "Electrically Insulating"**

DNP proposes that the term "passivating" be replaced with the words "electrically insulating." Dkt. No. 113 at 4-6. ATI and Sharp do not support this proposed construction. *Id*. DNP uses several different arguments to support this proposed construction. Dkt. No. 84 at 10-14. However, as noted below, because this Court finds the passivating layer may *but need not be* electrically insulating, this Court does not adopt DNP's proposed construction on this term. *See* Discussion, *infra*.

**(3) "On top of" and "Separate from"**

Sharp and DNP argue that the passivating material must be placed "on top of" and be "separate from" the layer of opaque material. Dkt. No. 113 at 4-6. ATI opposes such a construction, claiming that it is not supported by the intrinsic record. Dkt. No. 81 at 16-17.

As noted in this Court's initial construction of the term "layer," that term is to be preceded by the word "separate" such that the construction for the claim term "layer" is "separate layer." *See* Discussion, *supra*. This Court applies the same construction to this instance of "layer" such that the passivating material is placed "atop the separate layer of opaque material." Considering this construction, including the terms "on top of" and "separate from" would be superfluous. Accordingly, this Court does not adopt Defendants' proposed inclusion of the words "on top of" and "separate from."

**(4) "Layer of material that prevents passage of light"**

DNP proposes the claim term "opaque material" be replaced with "layer of material that prevents passage of light." Dkt. No. 113 at 4. DNP has provided no briefing in support of its proposed construction on this issue. In their proposed construction of Claim Element 1, the Parties agreed that this layer of opaque material should be construed as a layer "that *substantially* prevents transmission (or passage) of light." (emphasis added) *Id*. at 2. As noted above, there is a general rule that absent any evidence to the contrary, the construction a term is presumed to be the same throughout the entire patent. *See* Omega Eng'g Inc., 334 F.3d at 1334 (holding that "[w]e presume, unless otherwise compelled, that the same claim term in the same

patent or related patents carries the same construed meaning.").

Accordingly, there is a presumption in this case that the construction for "opaque material" should be the same throughout this patent. Because the Parties have already agreed that the construction for this layer of "opaque material" should be that it "*substantially* prevents transmission (or passage) of light," this Court should not now adopt a different construction for this claim element.FN14

FN14. Claim Element 1 provides, however, that the layer of opaque material is a layer of "*substantially* opaque material" while Claim Element 7 provides that this layer of opaque material is just a layer of "opaque material," However, Claim Element 7 also refers to "said" layer of opaque material, referring to the layer of opaque material referenced previously in Claim Element 1. Therefore, there should be a consistent construction between Claim Element 1 and Claim Element 7. Additionally, since there does not appear to be a significant dispute between the Parties on this issue, it will not be addressed further.

The next disputed claim term "passivating material" and the final construction of Claim Element 7 will be discussed in the next section.

**8. "Passivating Material" ('682 Patent, all asserted claims; '711 Patent, claims 4 and 8) (Claim Elements 7 and 8)**

The Parties argued the construction of the term "passivating" extensively in both their briefing and at the claim construction hearing on January 22, 2009. All Parties recognize that the term "passivating material" is defined in the specification and that definition should be adopted. However, the Parties dispute how the terms included in definition for "passivating material" should be construed. Specifically, the Parties dispute the construction of "to perform at least two critical functions" and the constructions of functions 1) and 3) in the definition for "passivating material." The Parties' contentions on both of these issues will be addressed in order.

As an initial matter, it is important to note that the specification defines the term "passivating material" as follows (the disputed terms are highlighted in bold and are italicized):

The passivating material 26 is adapted to, and must be deposited to a depth sufficient ***to perform at least two critical functions:*** 1) to ***level*** the underlying filter and opaque layers to a continuous, flat surface to serve as a base upon which subsequent layers may be formed; 2) to electrically insulate the light influencing element 10 from any electrically conductive layers that may be disposed upon the passivating layer; and 3) to provide a flat, ***level*** surface so as to assure a uniform thickness for any layer of liquid crystal material disposed thereon.

Col. 7, Lines 22-31 (emphasis added).

**a. "To perform at least two critical functions"**

**(1) The Parties' Positions**

ATI argues that the definition for "passivating material" listed in the specification only requires that two of the three "critical functions" be performed. Dkt. No. 81 at 15-17. Accordingly, ATI argues that the phrase "to perform at least two critical functions" should be changed to "performs two of the following functions."

*Id*. Sharp and DNP, however, propose different constructions. Dkt. No. 113 at 4-6. Sharp proposes this Court adopt the plain meaning of this phrase: "to perform at least two critical functions." *Id*. DNP proposes this Court adopt the construction "to perform the following critical functions." *Id*. The difference between these proposed phrases is significant.

In support of its argument, ATI argues that the specification requires that the passivating material "must perform two (but need not perform all three)" of the listed functions. Dkt. No. 81 at 15-17. Sharp simply argues that exact definition from the specification for the claim term "passivating material" should be adopted. Dkt. No. 83 at 9-1.3. Sharp argues that this definition should be adopted because with that definition, "a special meaning of that phrase was provided by the inventor." *Id*.

DNP provides five arguments in support of its proposed construction. First, DNP argues that the passivating material must be able to perform all three of the "critical" functions in order for those functions to be considered "critical." Dkt. No. 84 at 10-14. DNP argues that for the Court to allow ATI's suggested "menu-style" approach with the ability to pick and choose two of the three different functions would be inconsistent with the specification and would be inconsistent with their designation as "critical" functions. *Id*. Second, DNP argues that the specification and one preferred embodiment support a construction that this passivating material must be electrically insulating. *Id*.

Third, DNP argues that the passivating layer should be considered electrically insulating because, according to the patent, a *conductive layer* is placed upon this passivating layer. *Id*. If the passivating layer were *not* electrically insulating, then the inventor would not have made it a point to state that a conductive layer had to be placed on this passivating layer. *Id*. Fourth, DNP argues that the requirement that the passivating layer be "continuous" supports its proposed construction that the passivating layer be electrically insulating. *Id*. Specifically, DNP argues that if this passivating material were not continuous, it could still level to provide a flat surface but it could not be electrically insulating. Accordingly, DNP argues that the passivating material must electrically insulate. *Id*. Fifth and finally, DNP proposes that the prosecution history supports its argument that the passivating layer must be electrically insulating. *Id*. DNP argues that the prosecution history indicates that electrical insulation was the "critical function" that led the examiner to find the claims with the passivating layer were patentable over the prior art. *Id*.

**(2) Construction**

This Court will address each of the Parties' arguments in support of their proposed construction.FN15 First, as noted above, DNP argues that, based upon the specification's definition for the claim term "passivating," the passivating material must perform *all three* of the listed functions. Dkt. No. 84 at 10-14. DNP argues that if the passivating material were only required to perform two of those three functions then the inventor would not have included in the specification that those three functions were "critical." *Id*. This Court asked ATI to address this issue during the claim construction hearing on January 22, 2009. Hearing Transcript at 64. In response to this argument, ATI stated as follows:

FN15. Because Sharp only offers that the ordinary meaning of this phrase be adopted, this Court will only address Sharp's arguments incidentally in the discussion of ATI and DNP's proposed constructions for this claim term.

**THE COURT:** The specification calls for two critical functions, right?

**MR. SCHUNEMAN:** That's right. It does and that term critical is what the inventor was saying in order-it's a definitional understanding of critical. *In order for something to be a passivating layer it is critical that the passivating layer fill two of these functions. If it doesn't fulfill at least two of these functions, it's not a passivating layer.*

*Id.* (emphasis added).
This Court is persuaded by ATI's argument on this issue. It is a bedrock principle of claim construction that the inventor has ability to create his or own lexicography and define specific terms. Phillips, 415 F.3d at 1316 (holding "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs."). Accordingly, the starting point for defining the term "passivating" is the specification, where the inventor defined the term. *Id.* In this case, the inventor only required the "passivating" material perform *two* functions: "to perform at least two ... functions." Col. 7, Lines 22-31. As argued by ATI, the term "critical" does not indicate that *all* the functions must be performed. Instead, the term "critical" indicates that it is "critical" for at least two of those three functions be performed in order for the layer to be considered passivating. Such a construction is supported by the inventor's use of the word "two." Had the inventor intended to require that all three functions be required and were "critical" to be a passivating layer, then he could have used the word "three." FN16

FN16. DNP argues that functions 1) and 3) are essentially the same function, such that only *two critical functions*-electrically insulating and leveling-are required, As explained in the next section, functions 1) and 3) are not the same functions. Furthermore, DNP also suggested at the claim construction hearing on January 22, 2009 that the term "two" may have been a typographical error and should be replaced with the word "three." Hearing Transcript at 82. However, no support was offered in the briefing or at the claim construction hearing for this claimed typographical error. Therefore, this Court does not adopt this argument,

Second, DNP argues that the specification and one preferred embodiment support its proposed construction that the passivating material must be electrically insulating. Dkt. No. 84 at 10-14. Specifically, DNP argues that the "specification only discloses electrically insulating materials for the passivating layers and no materials that could be electrically conductive." *Id.* DNP also argues that one preferred embodiment supports its argument that the passivating layer must be electrically insulating: "In one preferred embodiment of the instant invention, the transparent, *insulating,* passivating material 26 is formed from a transparent, organic material ...." (emphasis added). Col. 7, Lines 34-36.

However, even assuming DNP correctly states both of these facts,FN17 neither fact establishes that the passivating material or layer *must* be electrically insulating, especially when such a construction would violate the inventor's express definition for the term "passivating." Phillips, 415 F.3d at 1316. Specifically, as noted above, the inventor stated that only *two* of the three critical functions are required, and the electrical insulation function is only one of those three functions. Accordingly, the electrically insulating function is not required according to the express definition of the inventor. Therefore, this Court will not contradict the inventor's definition by adding the requirement that the passivating layer must be electrically insulating.

FN17. At the claim construction hearing, ATI indicated that not all of the materials listed in the specification for passivating material were electrically insulating. Hearing Transcript at 68. However, for the sake of

argument, this Court will assume that all of those listed materials are electrically insulating.

Third, DNP argues that the passivating layer must be electrically insulating because a "conductive" layer is placed upon the passivating layer in Claim Element 8. Dkt. No. 84 at 10-14. DNP argues that the inventor would not have required that a "conductive" layer be placed upon a passivating layer unless the passivating layer was also electrically insulating. *Id*. In response to this argument, ATI stated the following at the claim construction hearing on January 22, 2009:

**THE COURT:** ... so then would you have a conductive layer placed on top of a conductive layer? Is that what you're saying the patent provides for?

**MR. SCHUNEMAN:** You could do that. Yes.

**THE COURT:** All right.

**MR. SCHUNEMAN:** It could be a different conductive. There's a lot of conductive materials. You could use a semiconductor, for example. You could use a semi-insulator. There are several grades of different insulation functions. It's not as simple as, you know, when we all learned in grade school is wires conduct and they're made of metal, you know, plastics don't. You can use any number of materials.

Hearing Transcript at 68.

This Court is persuaded by ATI's argument. The fact that the inventor required a conductive layer be placed on the passivating layer does not lead to the conclusion that the passivating layer cannot be conductive. This is especially true where, as here, the inventor expressly stated that only *two* of the three functions are required.

Fourth, DNP argues that the requirement that the passivating layer be "continuous" supports its proposed construction that the layer must be electrically insulating. Dkt. No. 84 at 10-14. Specifically, DNP argues that a non-continuous layer could level but could not electrically insulate. *Id*. Therefore, because the layer is continuous, it should also be electrically insulating. In response, ATI relies again upon the specification's explicit definition of the term "passivating" and states that *whether continuous or not,* the passivating layer need not be insulating. Dkt. No. 88 at 2-3. This Courts finds ATI's argument persuasive. While the term "continuous" may arguably provide support for a construction that the passivating layer is electrically insulating, this term should not be used to contradict the inventor's definition for "passivating" in the specification.

Fifth and finally, DNP argues that the prosecution history supports its proposed construction that the passivating layer be electrically insulating. Dkt. No. 84 at 10-14. Specifically, DNP argues that during the prosecution of the "grandparent" application of the '682 and '711 Patents, ATI sought to overcome the prior art by adding a electrically insulating, passivating layer. *Id*. DNP argues that by amending its claims to require a passivating layer to distinguish over the prior art, ATI disclaimed any meaning of passivating material that does not include an electrically insulating function. *Id*.

In response, ATI argues that neither the inventor nor the USPTO examiner ever stated that the optional insulating function of the passivating layer was a point of distinction over the prior art. Dkt. No. 88 at 2.

ATI also argues that there were, in fact, four differences between the claim that *was found* to be patentable over the prior art and the claim that *was not found* to be patentable over the prior art. *Id*. These four differences include the following: (1) black polyimide, (2) a passivating layer, (3) a transparent conductive layer, and (4) the preamble. *Id*.

In its sur-reply brief, DNP argues that of these four differences, the only two which permitted the grandparent patent application to be patentable over the prior art were (1) a passivating layer and (2) a transparent conductive layer. Dkt. No. 84 at 2. DNP argues that the the prior art contained only a single, flatting layer which was disposed on the opaque matrix and color elements while the grandparent application of the '682 and '711 Patents contained two layers. *Id*. DNP claims that the presence of those *two layers* permitted that invention to be patentable over the prior art. *Id*.

ATI and DNP also argued this issue extensively at the claim construction hearing on January 22, 2009. Hearing Transcript at 69-71, 86-90. At this hearing, DNP stated that its position is that *prosecution disclaimer* (as opposed to prosecution history estoppel) applies under the facts in this case. *Id*. at 86. As noted above, under the Federal Circuit's standard, for prosecution disclaimer to attach, the "disavowing actions or statements made during prosecution [must] be both clear and unmistakable." Omega Eng'g, 334 F.3d at 1326. The Federal Circuit has "declined to apply the doctrine of prosecution disclaimer where the alleged disavowal of claim scope is ambiguous." Id. at 1324. Under the facts in this case, it is undisputed that there is *no clear or unmistakable* disavowing action or statement. As noted by ATI, neither the inventor nor the USPTO examiner ever stated that the insulating function of the passivating layer was *the* point of distinction over the prior art. DNP does not dispute the fact that there are no such statements by the inventor or a USPTO examiner. Therefore, there is no "clear and unmistakeable" disavowal under these facts, and, as such, prosecution disclaimer should not apply.

Accordingly, based upon the above reasoning, this Court finds the phrase "[t]o perform at least two critical functions" should be construed as "performs two of the following functions."

**b. Functions 1) and 3) of "Passivating Material"**

**(1) The Parties' Positions**

In the definition of "passivating material," the term "level" is used twice: "1) to level the underlying filter and opaque layers to a continuous, flat surface to serve as a base upon which subsequent layers may be formed ... 3) to provide a flat, level surface so as to assure a uniform thickness for any layer of liquid crystal material disposed thereon." Col. 7, Lines 22-31 (emphasis added). ATI argues that 1) and 3) are two separate functions. Dkt. No. 88 at 1. Specifically, ATI argues the following:

Contrary to DNP's assertion, functions 1 and 3 of the passivating material are different. Function 1 levels underlying layers to provide a flat surface so that the subsequent layers may be formed. Function 3, on the other hand, requires leveling to achieve a uniform thickness for the layer of liquid crystal material.

*Id*. ATI also argues that these two functions are, however, just "two different leveling functions." *Id*. ATI argues that these leveling functions are not going to create a "flat" surface in the sense that there is a "precise level surface in terms of no bumpiness." Hearing Transcript at 93.

In its sur-reply brief, Sharp disagrees with ATI's proposed construction that these functions are just two different "leveling" functions. Dkt. No. 91 at 1-2. Sharp argues that "leveling" can be defined as providing a

*slightly* more level surface while "to level" in these Patents means "to level ... to a continuous, flat surface" and "to provide a flat, level surface." *Id*. Sharp also argues that "leveling" is covered by the prior art while "to level" and "to provide a flat, level surface" are covered by the '682 and '711 Patents. *Id.;* Hearing Transcript at 75-79. DNP, however, argues that the functions 1) and 3) serve the same purpose, which is "leveling to provide a flat surface." Dkt. No. 84 at 12.

**(2) Construction**

As an initial matter, DNP argues that functions 1) and 3) are the same functions while Sharp and ATI argue that these functions are different. For the following reasons, the Court finds that these functions are different. First, the fact that these functions were *listed* as separate indicates that the inventor intended the functions to be separate. Second, these two functions affect different layers. Function 1) affects the color filter and opaque layers underlying the passivating material while Function 3) affects the liquid crystal material disposed on the passivating material. Thus, this Court finds these two functions are different. Function 1) is "to level ... to a continuous, flat surface" while function 3) is "to provide a flat, level surface."

The next issue is whether ATI or Sharp's proposed constructions for these two functions should be adopted. Based upon a plain reading of these functions, they provide for "1) to level ... to a continuous, flat surface" and 3) "to provide a flat, level surface." Col. 7, Lines 22-31. Although the distinction between ATI and Sharp's proposed constructions do not appear to be significant, it appears that adopting ATI's construction would essentially eliminate the word "flat" from both these functions.FN18 Accordingly, this construction cannot be adopted, and the ordinary meaning of these functions, including the instances of "flat," should be retained.

FN18. At the claim construction hearing on January 22, 2009, ATI suggested that the term "flat" should not be literally construed: "In fact, no layer really is going to be exactly level in the sense there is no bumps or grooves because you're building up electronics as a stack, a very, very thick stack of materials and you're depositing these materials in different places. *It's not going to be some sort of precise level surface in terms of no bumpiness*." (emphasis added). Hearing Transcript at 93.

After addressing all the above issues, this Court finds that Claim Element 7 should be construed as follows: "Placing a continuous, separate layer of transparent, passivating material atop the separate layer of opaque material and the light influencing material, where the passivating material is a material that performs two of the following functions: 1) levels the underlying filter and opaque layers to a continuous, flat surface to serve as a base upon which subsequent layers may be formed; 2) electrically insulates the light influencing element from any electrically conductive layers that may be disposed upon the passivating layer; and 3) provides a flat, level surface so as to assure a uniform thickness for any layer of liquid crystal material disposed thereon."

**9. "Disposing a layer of transparent, conductive material atop said passivating layer" ('682 Patent, all asserted claims; '711, claims 4 and 8) (Claim Element 8)**

**a. The Parties' Positions**

ATI proposes that essentially the plain meaning of this claim element be adopted. Dkt. No. 81 at 17-18. Specifically, ATI proposes the following construction: "Placing a layer of transparent, conductive material atop the passivating layer." *Id* . The only two changes ATI proposes to the ordinary meaning of this claim

element is that (1) "disposing" be replaced with "placing" and (2) "*said* passivating layer" be replaced with "*the* passivating layer." *Id*. Sharp proposes that these layers be construed as "separate and distinct." Dkt. No. 83 at 6-9. DNP proposes that these layers be construed as "separate and distinct' and that the passivating and conductive layers be construed as "continuous." Dkt. No. 84 at 25. DNP provides no briefing supporting its claim that the passivating and conductive layers should be construed as "continuous." *Id*.

**b. Construction**

As noted above, this Court has rejected Sharp and DNP's arguments that a "layer" must be "separate and distinct." *See* Discussion, *supra*. Additionally, DNP provides no support for its position that the requirement "continuous" be included before the passivating and conductive layers. Therefore, these terms will not be adopted. Accordingly, this Court's construction of Claim Phrase 8 is as follows: "Placing a separate layer of transparent, conductive material atop the separate passivating layer." The definition for "passivating" is the same definition that was adopted for Claim Element 7. *See* Discussion, *supra*.

**10. "Providing a second substantially transparent substrate member having a continuous layer of transparent conductive material disposed on one surface thereof, said second substrate being spacedly disposed from said first substrate and arranged so that the layer of transparent conductive material of said second substrate faces the layer of transparent conductive material of the first substrate" ('682 Patent, claims 22, 25, 26, and 29; '711, claim 26) (Claim Element 9)**

**11. "Patterning the continuous layer of transparent conductive material" ('682 Patent, claims 22, 25, 26, 29) (Claim Element 10)**

**a. The Parties' Positions**

The '682 and '711 Patents provide for a method of fabricating a liquid crystal display that involves arranging *two different substrates*. Claim 22 of the '682 Patent can be used as an example of this fabrication process. According to Claim 22 of the '682 Patent, the fabrication of a liquid crystal display is comprised of different steps. Specifically, this Claim provides as follows:

A method of fabricating a liquid crystal display, said method comprising the steps of:

providing a substantially transparent first substrate member;

disposing a layer of substantially opaque material upon one side of said first substrate;

forming at least one opening through said layer of substantially opaque material;

disposing a light influencing material in said at least one opening;

disposing a continuous layer of a transparent, passivating material atop said layer of opaque material and said light influencing material;

disposing a layer of transparent, conductive material atop said passivating layer;

providing a second substantially transparent substrate member having a continuous layer of a transparent conductive material disposed on one surface thereof, said second substrate being spacedly disposed from said first substrate and arranged so that the layer of transparent conductive material of the second substrate faces the layer of transparent conductive material of the first substrate;

patterning the continuous layer of transparent conductive material; and

disposing a layer of liquid crystal material between said first and said second substrates

**(1) "Patterning" the Conductive Layer**

The Parties do not dispute that Claim Element 9 relates to the method of fabricating the second substrate and finally completing the liquid crystal display. Dkt. No. 113 at 7-8. The Parties do, however, dispute whether Claim Element 10 relates to patterning the conductive layer on the *first* or the *second* substrate, as each substrate includes a separate conductive layer. ATI argues that this "patterning" is of the conductive layer on the second substrate. Dkt. No. 81 at 23-26. ATI argues that such a construction is supported by the specification. *Id*.

Sharp argues that the "patterning" must be of the conductive layer on the first substrate. Dkt. No. 113 at 8-9. Sharp argues that the conductive layer on the second substrate cannot be patterned because it is a *continuous* conductive layer. Dkt. No. 113 at 7-8. Specifically, Sharp argues that a continuous conductive layer is first placed on the "second substrate." *Id*. Then, later in the claim element, the phrase "said second substrate" is used to refer back to this second substrate. *Id*. When the inventor refers back to the second substrate by saying "said second substrate," Sharp argues that he was referring also referring back to the *continuous conductive layer* placed on the second substrate, *Id*. Sharp argues that if this construction is not adopted, this Court will be ignoring the importance of the word "said" and the fact that this word should be used to refer back to the previous use of the word. *Id.;* Hearing Transcript at 146-148.

In its response, DNP focuses more on the timing of the patterning and does not specifically argue as to which conductive layer is patterned. Dkt. No. 84 at 28-29. Instead, DNP merely argues that the "transparent electrically conductive material" is patterned. *Id*.

**(2) Timing of the "Patterning"**

The Parties also dispute whether this patterning step must be completed *before* or *after* the substrates are arranged so as to face each other. ATI argues that the patterning step is completed *before* the substrates are so arranged. Dkt. No. 81 at 23-26. ATI argues that nothing in the intrinsic record precludes the patterning of conductive material before the substrates are arranged. *Id*.

Sharp does not provide any specific argument regarding the timing of this patterning. Dkt. No. 113 at 8-9. However, Sharp does propose that the "patterning" cannot be of the conductive layer on the second substrate because then the patterning would have to occur *after* the substrates were arranged. *Id*. Sharp argues that if the "patterning" were found to be of the conductive layer on the second substrate then this phrase violates 35 U.S.C. s. 112 as ambiguous. *Id*. DNP argues that the "patterning" must occur after the substrates are arranged. *Id*. DNP argues that if this construction is not adopted, then this claim element is insoluably ambiguous and the corresponding claims would be invalid as indefinite under 35 U.S.C. s. 112.

**b. Construction**

**(1) "Patterning" the Conductive Layer**

The claim language establishes that Claim Element 10 requires the patterning of the conductive layer on the second substrate. Specifically, Claim Element 10 requires the patterning of "the *continuous* layer of transparent conductive material." (emphasis added). The only other reference to the *continuous* layer of transparent conductive material is in Claim Element 9 (referring to the second substrate). Accordingly, the "patterning" must be of the conductive layer on the second substrate, not of the conductive layer on the first substrate.

Furthermore, Sharp's argument that the patterning must be of the conductive layer on the first substrate is not persuasive. As noted above, Sharp argues that Claim Element 9 uses the phrase "said second substrate" to refer back to the second substrate with the continuous conductive layer. While Sharp is correct in its argument that "said second substrate" refers back to the second substrate, nothing in the this claim element requires that this "said second substrate" must also include a continuous (as opposed to patterned) conductive layer.FN19

FN19. However, this Court does find that Sharp's argument that a layer cannot be both "continuous" and "patterned" at the same time is persuasive. Such a construction is supported by the specification. *See, e.g.,* Col. 7, Lines 44-52 (stating that the conductive layer may be patterned or "[a]lternatively" may be left unpatterned). ATI also does not dispute this proposed construction. Hearing Transcript at 134-135, 138. Therefore, this proposed construction is adopted.

**(2) Timing of the "Patterning"**

DNP's proposed construction that the "patterning" must occur *after* the substrates are arranged to face each other cannot be adopted. Under the general rule, method steps need not be performed in the order written. Baldwin Graphic Systems, Inc. v. Siebert, Inc., 512 F.3d 1338, 1345 (Fed.Cir.2008). Defendants have not established that an exception to this general rule should be applied. Also, the claim language itself does not explicitly or implicitly require a specific order. *Id.* (holding that "although a method claim necessarily recites the steps of the method in a particular order, as a general rule the claim is not limited to performance of the steps in a particular order, unless the claim explicitly or implicitly requires a specific order.") (internal citation omitted). Therefore, these method steps need not be performed in the order written.

Moreover, the specification does not require that these method steps be performed in a specific order. *See, e.g.,* Col. 8, Lines 10-24. DNP even recognizes that the specification does not require these method steps to be performed in the order written:

A second plate is then prepared by first depositing a layer of conductive material upon one surface of a second transparent substrate. ( *Id.* at Fig. 4, ref. No. 42; *id.* at 8:10-12). The layer of conductive material may be left as a continuous layer or ***may be patterned*** by photolithography to form display electrodes. ( *Id.* at Fig. 4, ref. No. 42; *id.* At 8:14-17). The two plates are ***then arranged*** so that the different layers of material disposed on the two substrates face each other. ( *Id.* at Fig. 4; *id.* At 8:21-24).

Dkt. No. 84 at 3 (emphasis added).

Additionally, DNP's proposed construction-which would require the patterning *after* the substrates are

arranged-would render this invention inoperable. Even a rudimentary understanding of the technology behind the fabrication of a liquid crystal display would dictate against requiring such a construction. Namely, after the two substrates are arranged so as to face each other, it would be unreasonable to then pattern the conductive layer. Even DNP recognized that such a construction would be impractical:

**THE COURT:** ... "That is, from DNP's briefing it seemed to me that you seem to require or are wanting to require Claim 22 to be done in sequence. In other words you're-the way you interpret that is once the assemblies are put together, the subassemblies are put together, then if there is going to be any patterning on the second substrate, it has to happen then. Is that the way you're-is my reading of your position correct?

**MR. CHALSEN:** Yes, that's our argument, Your Honor. And actually this is another one of our indefinite-it's really an indefinite in that this claim really is inoperable or it's invalid. It can't be-it's not practical-Hearing Transcript at 136.

Accordingly, this Court adopts the following construction for Claim Element 9: "Providing a second substrate having a continuous layer of transparent conductive material placed on one surface. The substrates are assembled so that the first and second substrates are spaced apart from each other and the layer of conductive material of the first substrate and the layer of conductive material of the second substrate face each other." This Court adopts the following construction for Claim Element 10: "Patterning the continuous layer of transparent conductive material on the second substrate. This patterning step may be done before or after the substrates are arranged such that they face each other."

Furthermore, DNP's proposal that the transparent conductive material be placed "directly onto the second substrate" should not be adopted. As noted repeatedly in this opinion, these claims use the open-ended word "comprising" when detailing their steps. Such a word indicates there could be additional steps included in the invention with the potential for intervening layers between the second substrate and the continuous layer of transparent conductive material. CollegeNet, Inc., 418 F.3d at 1235.

**12. "Providing a second substantially transparent substrate member having a layer of transparent conductive material disposed on one surface thereof, said second substrate being spacedly disposed from said first substrate and arranged so that the layer of transparent conductive material of said second substrate faces the layer of transparent conductive material of the first substrate" ('682 Patent, claims 16, 18, and 20) (Claim Element 11)**

Subject to one exception, the same construction used for Claim Element 9 is adopted for Claim Element 11. Specifically, the one exception is that for Claim Element 11, the term "continuous" is not included prior to the phrase "layer of transparent conductive material" in the first sentence of the construction.

## V. CLAIM CONSTRUCTION-THE '711 PATENT

The Court construes the contested terms from the '711 Patent as follows.

### 1. "Black Polyimide Material" (Claims 4 and 8) (Claim Element 2)

#### a. The Parties' Positions

ATI proposes that the ordinary meaning for "black polyimide material" should be adopted as this Court's construction. Dkt. No. 81 at 8. Defendants, however, suggest that "black polyimide material" be construed as

"a polymer with an imido as the monomer unit and is of the color black." FN20 Dkt. No. 84 at 20. They argue that such a construction reflects the plain meaning of the terms "black polyimide material." *Id*. Furthermore, they support this proposed construction with dictionary definitions from "thefreedictionary.com" which defines the term "black" and the *Random House Unabridged Dictionary*, Second Edition, which defines the term "polyimide." *Id*.

FN20. Sharp does provide any briefing on this issue. Dkt. No. 83. Instead, in the Chart, Sharp states that it "agrees with DNP" on DNP's proposed construction. Dkt. No. 113.

In its reply brief, ATI states that this proposed construction is "confusing, unsupported and potentially erroneous." Dkt. No. 88 at 12. ATI also argues that this proposed construction should not be adopted because it does not allow the jury to "intelligently determine the questions presented." *Id*. In DNP's sur-reply brief, it argues that its proposed construction should be adopted because it "properly relies on the dictionary definition" of the terms. Dkt. No. 90 at 5.

**b. Construction**

As noted by ATI, claim construction is aimed at instructing the jury on the meaning to be attributed to all disputed terms used in the claims in suit so that the jury will be able to "intelligently determine the questions presented." Sulzer Textil A.G. v. Picanol N.V., 358 F.3d 1356, 1366 (Fed.Cir.2004) (internal citations omitted). In this case, DNP's proposed construction of "a polymer with an imido as the monomer unit and is of the color black" provides no more guidance to the jury than "black polyimide material."

Furthermore, the definitions provided by DNP were not provided by a technical dictionary and were not from a person skilled in the art. Dkt. No. 84 at 20. Accordingly, there is no indication that these definitions provide the "ordinary meaning" as understood by someone skilled in the art. *Phillips*, 415 F.3d 1313 (requiring that claims be "given their ordinary and customary meaning" as understood by "a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application"). Therefore, in order to avoid a potentially erroneous construction and because Defendants' construction would not provide greater clarification for the jury than ATI's construction, this Court construes "black polyimide material" by leaving its plain language. Claim Element 2 is construed to read as follows: "The material that substantially prevents transmission (or passage) of light is a black polyimide material."

**2. "Wherein method does not use a photolithography process to form an opening in the light influencing material" ('711 Patent, claim 26) (Claim Element 12)**

**a. The Parties' Positions**

ATI argues that the construction of this claim element is "simple and straightforward": it means that the photolithographic process is *not used* to form an opening in the light influencing material. Dkt. No. 81 at 28-30. ATI argues that the prior art required the use of the photolithographic process to form such openings and that this process was less efficient and more expensive. *Id*. Therefore, this claim element was included in this invention to differentiate it from the prior art. *Id*. Accordingly, ATI suggests that the ordinary and customary meaning must be adopted for the construction of this claim element: "The method does not use a photolithographic process to form an opening in the light influencing material." *Id*.

In response, Defendants argue as an initial point that Claim 26 is invalid. Dkt. No. 83 at 20-23; Dkt. No. 84 at 14-19. Sharp argues that because this claim requires openings in light influencing material and teachings regarding forming such openings are not included in the specification, this claim is invalid under the "new matter" rule of 35 U.S.C. s. 251, para. 1. Dkt. No. 83 at 20-23. Sharp does not offer an alternate construction for this claim element. Dkt. No. 113 at 10-12.

DNP argues that the certificate of correction filed to "correct" Claim 26 is invalid. Dkt. No. 84 at 14-19. As noted in the "patents-in-suit" section, this certificate of correction was approved to change the word "*the* opening" to "*an* opening." Specifically, DNP argues that the change from "*the* opening" to "*an* opening" broadened the claim scope rather than corrected a mistake in Claim 26. Dkt. No. 84 at 14-19. DNP argues that because this certificate of correction was improperly issued, this Court must construe Claim 26 based upon the original language of "*the* opening," which was in place prior to the filing of the certificate correction. *Id*. DNP argues that this original language of "*the* opening" is insoluably ambiguous and should be found invalid under 35 U.S.C. s. 112. *Id*. Alternatively, DNP argues that this claim element should be construed as forming openings in the *light influencing element* ( *i.e.,* substantially opaque material), instead of in the *light influencing material*. Dkt. No. 84 at 14-19. DNP argues that such a construction is supported by the intrinsic evidence. *Id*. Specifically, DNP argues that the only "openings" the specification references are through the substantially opaque material and are not through the light influencing material. *Id*.

In response to these arguments, ATI argues that Defendants misconstrue this claim element. Dkt. No. 88 at 3-7. ATI argues that this claim element merely states that photolithography is *not used* to form openings in the light influencing material as it was used in the prior art. *Id*. ATI argues that this construction is supported by the specification wherein the inventor disclosed at least two examples of such a process in the prior art. *Id*.

In it sur-reply brief, Sharp argues that ATI cannot provide support in the specification of the '711 patent showing the inventor identified the formation and non-formation of openings in the light influencing material as being part of his invention. Dkt. No. 91 at 4-5. Accordingly, Sharp reiterates its argument that this claim violates the "new matter" rule for reissue claims. *Id*. In its sur-reply brief, DNP again argues that the certificate of correction is invalid. Dkt. No. 90 at 3-5. DNP also argues that the two articles discussed in the specification do not support its purposed construction and that, even if they did, the articles are merely *extrinsic* evidence. *Id*.

**b. Construction**

As an initial matter, this Court notes that the issue of whether the certificate of correction was properly issued is not an issue before this Court in this claim construction. This issue will be better addressed after the parties have had the opportunity to fully brief this issue. Instead, it will be assumed that the certificate of correction was properly issued. Furthermore, this Court finds there are two issues present in construing this claim element: (1) whether this claim element requires forming an opening in the light influencing material and (2) whether this claim element should be construed so as to replace "light influencing material" with "light influencing element ( *i.e.,* substantially opaque material)." Both of these issues will be addressed.

**(1) Whether Openings Must Be Formed**

In their proposed construction, Defendants argue that this claim element requires that openings in the light influencing material be formed but dictates that those openings not be formed using photolithography. Dkt. No. 113 at 10-11. Sharp then argues that because there is no teaching in the specification of the '711 Patent

wherein this claim element and the process for forming openings in the light influencing are described, this claim should be found to be invalid under the "new matter" rule of 35 U.S.C. s. 251. *Id*. DNP then argues that this claim element cannot be construed, that this proposed construction is insolubly ambiguous, and that this claim is invalid as indefinite under 35 U.S.C. s. 112. *Id*. ATI, however, argues that this claim element does not require that openings be formed in the light influencing material. *Id*. Instead, ATI argues that this claim element merely requires that photolithography *not be used to form* openings in the light influencing material. *Id*. Dkt. No. 81 at 28-30.

Based upon the plain meaning of this claim element, it should be construed as merely requiring that no openings in the light influencing material be formed using photolithography. There is no support in the specification or in the claim terms for the requirement that openings *must* be formed in the light influencing material. In fact, the specification teaches that the light influencing material *is to be placed* into the opening(s) that are formed in the substantially opaque material. Col. 3, Lines 53-59.

Furthermore, as for Sharp's argument that this claim phrase is "new matter" and is invalid under 35 U.S.C. s. 251, this Court finds that this argument is not persuasive. The specification details the prior art, which used photolithography to form opening(s) in the light influencing material, and the specification details that the deficiencies with this process. Col 1, Lines 31-67; Col. 2, Lines 1-67. For example, the specification details the "conventional photolithographic method of fabricating color filter elements for liquid crystal display." Col. 2, Lines 7-27. The specification also describes the prior art technique of creating color filters which illustrated "the need to etch, mask and re-etch the deposited materials in order to achieve the desired color configuration." Col. 2, Lines 33-34. The specification then states that it was the goal of this invention to avoid using this cumbersome and expensive approach to creating a liquid crystal display:

It is an object of the present invention to provide a light influencing element for high resolution electronic optical systems, and a method of fabricating the same which avoids the need to employ *repeated photolithographic steps*.

Col. 3, Lines 7-12 (emphasis added). Accordingly, in placing Claim Element 12 in the '711 Patent, the inventor was essentially stating the following: "This is not the prior art that was so cumbersome and expensive."

Therefore, this Court finds that this teaching in the specification is sufficient to describe this claim and that this claim element does not describe "new matter" under 35 U.S.C. s. 2.51. Furthermore, this Court finds that because this claim element is subject to a construction, it is not insolubly ambiguous and invalid as indefinite under 35 U.S.C. s. 112. Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375 (Fed.Cir.2001) (holding that "[i]f the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be over which reasonable persons will disagree, ... the claim [is] sufficiently clear to avoid invalidity on indefiniteness grounds.").

**(2) "Light Influencing Material" versus "Light Influencing Element"**

DNP also argues that if its first proposed construction is not adopted, then this Court should construe "light influencing material" as being the "light influencing element ( *i.e.,* substantially opaque material)." Dkt. Nos. 84 at 14-19; 113 at 11. Specifically, DNP argues that this claim elements should be construed as follows: "The method forms the hole in the light influencing element ( *i.e.,* substantially opaque material) by a method other than photolithography." Dkt. No. 113 at 11. DNP bases its argument upon the words used in

the claim element *prior to* the time the certificate of correction was approved. DNP argues that, before the certificate of correction was approved, the claim element stated that "the method does not use a photolithography process to form *the* opening in the light influencing material." Dkt. No. 84 at 15. DNP argues that the only "openings" described in the specification are in the substantially opaque material. *Id*. Accordingly, as DNP argues, the term "the openings" must refer to the openings in the substantially opaque material. *Id*.

This Court cannot adopt DNP's proposed construction for two reasons. First, and most importantly, the specification does not support such a construction. In the specification, the inventor specifically stated that the openings in the substantially opaque material can be formed using photolithography. The inventor stated that the openings in the substantially opaque material may be formed "by employing a method such as a high power laser, *or a photolithographic etch process to cut or eat away the opaque material*." Col. 3, Lines 41-4.3 (emphasis added). This Court's function is merely to construe the claim terms, not to re-write the invention. *Becton Dickinson and Co.,* 922 F.2d at 799 n. 6 ("Nothing in any precedent permits judicial redrafting of claims. At most there are admonitions to *construe* words in claims narrowly, if possible, so as to sustain their validity") (internal quotes omitted). Therefore, DNP's proposed construction changing the nature of this invention in a manner contrary to the specification cannot be adopted.

Second, as noted above, at this stage of the litigation, this Court will not assume that the certificate of correction was improperly issued. Therefore, DNP's argument-that "an opening" should be construed as "the opening" (as it was originally written)-is not a proper argument at this stage of the litigation. Accordingly, this Court adopts the following construction for Claim Element 12: "The method does not use a photolithography process to form an opening in the light influencing material."

## VI. CONCLUSION

Accordingly, the Court hereby **ORDERS** the disputed claim terms construed consistent herewith.