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

OPTRONIC SCIENCES LLC, *Plaintiff*, v. BOE TECHNOLOGY GROUP CO., LTD., *Defendant*.	§ § § § § § § §	CASE NO. 2:23-CV-00549-JRG

CLAIM CONSTRUCTION ORDER

In this patent case, Optronic Sciences LLC alleges infringement by BOE Technology Group Co., Ltd., of claims from nine patents generally relating to electronics displays and pixel technology. *See generally* Am. Compl., Dkt. No. 22. The parties present a dozen disputes about claim scope from seven of the patents. Having considered the parties' briefing, along with arguments of counsel at a July 23, 2025 hearing, the Court resolves the disputes as follows.

I. BACKGROUND

A. U.S. Patent 7,168,842

The '842 Patent "relates to a light-emitting device backlight package which requires minimal space while producing maximum luminosity." '842 Patent at 1:9–11. The patent explains "backlighting [a liquid crystal display] is a popular method of providing a light source for the LCD" because backlighting provides good functionality in low-light conditions. *Id.* at 1:21–23.

Conventional LCDs at the time of the application had low efficiency. For example, in the prior art shown in Figure 1 (below), LED modules (10) are at the bottom of a light guiding plate (LGP) (11) at each of its two ends. Each LED module emits light (12) toward the top of the LGP, which reflects as ray (13) to the end of the LGP enclosure closest to the LED module, and then reflects along the length of the LGP as a ray (14). For each of the two reflections, light loses energy,

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which results in poor luminosity along the length of the LGP. *See* '842 Patent at 1:34–50.

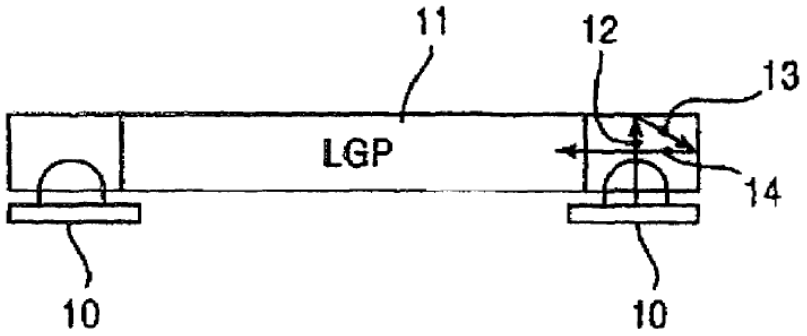


Fig.1

In Figure 2 (below), which is also prior art, the LED modules (20) are at the ends of an LGP (21). As a result, the light (22) emitted by the LED modules (20) travels directly along the length of the LGP. Because the light isn't first reflected, this module is more energy efficient and has better luminosity relative to the device shown in Figure 1. *See* '842 Patent at 1:51–60.

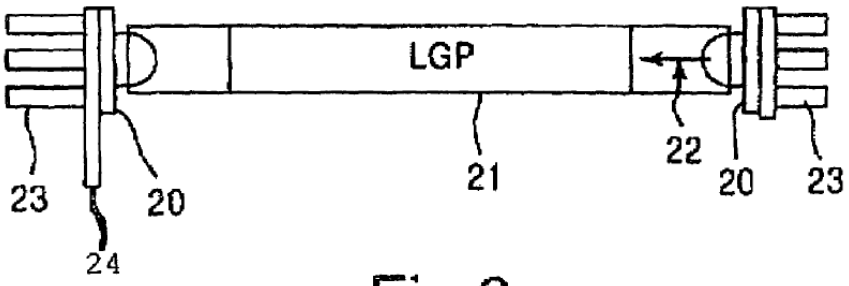


Fig.2

But the device of Figure 2 still has drawbacks. Specifically, the patent explains conventional LED backlights typically have heat-dissipating plates (23) underneath the printed circuit board (24) on which the LEDs are mounted to dissipate the heat, which is an inefficient use of space. *See* '842 Patent at 1:61–2:5.

Based on the prior art, the patent identifies a need for "a light-emitting device backlight package which achieves direct transmission of the emitted light in the longitudinal direction of a[]

light guiding plate, while also minimizing the space required for the packaging, thus addressing and solving problems associated with conventional systems." '842 Patent at 7:12–17. The patent discloses the device of Figure 4 (below), which has a lens (41), conducting wires (42), a chip (43), an L-shaped fastener with first and second portions (44A, 44B), and a PCB (45). The chip and PCB are on the first and second portions of the L-shaped fastener, respectively. The heat generated by the electronic components on the PCB is dissipated through the heat-dissipating plates (46) attached to the surface of PCB opposite the second portion (44B) of the fastener. *Id.* at 3:6–44. According to the patent, this embodiment "achieves an optimal light travel path and efficient heat dissipation, while conserving valuable space in the longitudinal direction of the light guiding plate 48." *Id.* at 3:55–58.

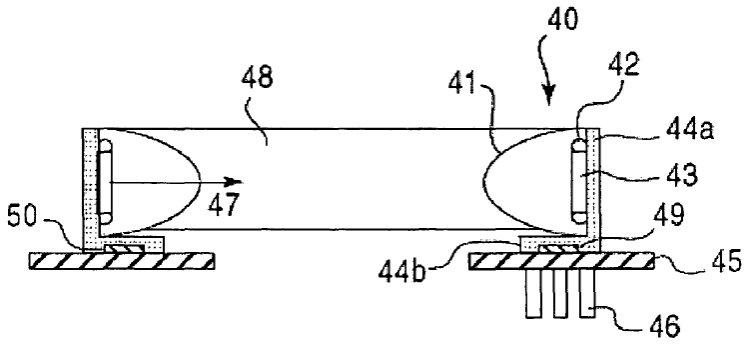


Fig.4

The parties have two disputes from this patent, both of which relate to Claim 7:

> 7. A backlight package comprising:
>
> a light guiding plate having a first side;
>
> a first fastener having a first portion and a second portion, the first portion extending along the first side of the light guiding plate, and **the second portion extending above the light guiding plate** wherein the first portion and the second portion are arranged in a substantially perpendicular relationship to form a **substantially L-shaped structure**;

> a light emitting device disposed on the first portion of the first fastener for emitting a light toward the light guiding plate; and
>
> a circuit board connecting the second portion of the first fastener; and
>
> a conducting wire electrically coupling the light emitting device to the circuit board.

'842 Patent at 4:62–5:10 (emphasis added). Specifically, the parties dispute the scope of "substantially L-shaped structure," which Claim 3 also recites, and whether the phrase "extending above the light guiding plate" renders the claim indefinite.

B. U.S. Patent 7,226,801 and 7,884,914

Although these patents are not related, they disclose similar subject matter. The '801 Patent "relates to a display and, more particularly, to a sealant region pattern and fabrication methods thereof." '801 Patent at 1:7–9. The '914 Patent "relates to a thin film transistor liquid crystal display (TFT LCD) device and in particular to a sealant region for encapsulating a liquid crystal display device." '914 Patent at 1:10–12.

Both patents explain that then-conventional TFT LCD devices

> suffer[] from degradation issues related to ambient environmental conditions such as moisture which may lead to performance loss, operational instability, poor color/emission accuracy, and shortened operational life. Specifically, water can cause crystallization and formation of organic solids, electrochemical reactions at the electrode-organic layer interface, corrosion of metals and migration of ionic species. To minimize such degradation, a TFT LCD device must be properly encapsulated to prevent moisture migration. Typical encapsulation methods utilize a color filter substrate covering the entire organic polymer areas with an adhesive sealant.

'801 Patent at 1:10–21; *see also* '914 Patent at 1:15–26. The '914 Patent also explains that, in conventional devices, "[t]he large volume and thickness of the applied sealant may also lead to

peeling of the sealant from the substrates." '914 Patent at 1:65–66.

The '914 Patent discloses "[a] structure for encapsulating a liquid crystal display device" in which

> [o]penings are formed in a second material layer on a first substrate, exposing an underlying first material layer. The openings are substantially distributed over the perimeter of the first substrate. A sealant is placed in the openings, forming a sealant region for attachment of a second substrate to the first substrate. The sealant region is substantially perpendicular to a direction of length of the openings. In addition, the sealant contacts the first material layer and the second material layer through the openings.

'914 Patent at [57].

Claim 1 of the '914 Patent recites:

> 1. An encapsulating structure for a liquid crystal display device, comprising:
>
> a first substrate having a sealant region;
>
> a second substrate;
>
> a first material layer disposed on the first substrate;
>
> a second material layer disposed on the first material layer, wherein the second material layer includes an opening with a continuous **saw tooth pattern** extending along the sealant region to expose the underlying first material layer; and
>
> a sealant disposed on the second material layer in the sealant region and filled into the opening of the second material layer for attaching the second substrate to the first substrate;
>
> wherein the sealant is adapted to contact the first material layer and the second material layer through the opening, and the sealant has substantially flat contact bottom surfaces with the first and the second material layers via the opening with the continuous **saw tooth pattern** extending along the sealant region.

'914 Patent at 4:58–5:10 (emphasis added). The parties dispute the meaning of "saw tooth pattern"

and whether the preamble is limiting.

The disputes from the '801 Patent concern Claim 9, which recites:

> 9. A sealant region pattern for a liquid crystal display, comprising:
>
> a first substrate and a second substrate opposite thereto;
>
> a **predetermined material layer** formed on the first substrate; and
>
> an organic material pattern layer having a **saw tooth opening** formed on the **predetermined material layer** to expose the surface of the **predetermined material layer** underneath, wherein the surface of the **predetermined material layer** and the sidewall of the organic material pattern layer form a predetermined angle.

'801 Patent at 4:26–37 (emphasis added). The parties dispute whether the preamble is limiting and the scope of "saw tooth opening." In addition, BOE alleges that "predetermined material layer" imparts an order-of-steps requirement on this claim.

C. U.S. Patents 7,568,121, 7,915,117 and 8,492,222

These related patents[1] concern "a storage capacitor of an electroluminescence device and a method for forming the storage capacitor." '121 Patent at 1:7–9; *see also* '117 Patent at 1:15–17; '222 Patent at 1:23–25. The patents explain that:

> [g]enerally, an active matrix organic light emitting diode ("OLED") device or a polymer light emitting diode ("PLED") device, either voltage-driven or current-driven, includes an array of pixels, where each pixel comprises a set of sub-pixels. Each sub-pixel further includes a switching transistor, a driving transistor and a storage capacitor. If charging conditions permit, it is desirable to design a storage capacitor with a large capacitance in order to avoid an issue of gray scale fading due to crosstalk or feed-through effect. For bottom-emission pixels, a storage capacitor having a greater capacitance may disadvantageously result in a smaller aperture ratio. In OLED pixels, thin film transistors, scan lines, data lines and power

[1] *See* '222 Patent at [62] (reciting the related U.S. application data).

> lines included therein may further reduce the aspect ratio. It is thus desirable to have a storage capacitor that includes improved capacitance in a limited area.

'121 Patent at 1:22–37.

The '117 Patent and the '222 Patent relate to methods for making devices with that improved capacitance. For example, Claim 1 of the '117 Patent recites:

> 1. A method for forming a pixel of an electroluminescence device, comprising:
>
> providing a substrate;
>
> defining at least a first area for capacitors and a second area for a transistor on the substrate;
>
> forming a gate oxide layer over the first area;
>
> forming a first conductive layer over the gate oxide layer over the first area;
>
> forming a first dielectric layer over the first conductive layer over the first area;
>
> forming a second conductive layer over the first dielectric layer over the first area;
>
> forming a second dielectric layer over the second conductive layer over the first area;
>
> forming a capping nitride on the second dielectric layer, wherein the capping nitride has an opening to expose a portion of the second dielectric layer over the second conductive layer;
>
> forming an organic layer over the capping nitride to contact the second dielectric layer via the opening of the capping nitride;
>
> forming a third conductive layer over the organic layer over the first area,
>
> forming a semiconductor layer over the second area without over the first area;
>
> forming a gate oxide layer contacting with the substrate over the first area;
>
> forming a fourth conductive layer over the gate oxide layer over

the second area;

wherein the first conductive layer over the first area is connectable to a power supply voltage, and wherein the first conductive layer, the first dielectric layer, and the second conductive layer over the first area collectively form a first one of the capacitors over the first area, the second conductive layer, the second dielectric layer directly over the second conductive layer, the organic layer directly over the second dielectric layer, and the third conductive layer, which is directly over the organic layer, over the first area collectively form a second one of the capacitors over the first area, and the semiconductor layer, the gate oxide layer, and the fourth conductive layer over the second area collectively form a transistor, and wherein the gate oxide layer in the first area is formed directly on the substrate; and

forming a seventh conductive layer contacting the semiconductor layer, wherein the seventh conductive layer is formed of the same conductive film as the second conductive layer.

'117 Patent at 8:32–9:13. The parties have two disputes from these patents. First, they dispute whether the defined areas can overlap. Second, they dispute the meaning of "is electrically connected to" in Claim 1 of the '222 Patent.

The '121 Patent relates to the device itself. Claim 1 recites:

1. An electroluminescence (EL) device, comprising:

a substrate; and

a plurality of pixels formed on the substrate, each pixel being in a respective pixel area, each pixel area including at least a first area, a second area, and a third area, wherein each pixel includes:

at least a first capacitor and a second capacitor in the first area, the first capacitor including a first conductive layer formed over a first gate oxide layer, a first dielectric layer over the first conductive layer, and a second conductive layer over the first dielectric layer, and the second

> capacitor including the second conductive layer, a second dielectric layer over the second conductive layer, and a third conductive layer over the second dielectric layer;
>
> a transistor in the second area, the transistor including a first semiconductor layer formed on the substrate, the first gate oxide layer over the first semiconductor layer, and a fourth conductive layer over the first gate oxide layer, wherein the fourth conductive layer is formed of the same conductive film as the first conductive layer, and wherein both the first conductive layer and the fourth conductive layer are directly formed on the gate oxide layer; and
>
> a light emitting device in the third area, the light emitting device including a fifth conductive layer, a first organic layer over the fifth conductive layer, and a sixth conductive layer over the first organic layer, wherein the sixth conductive layer is formed of the same conductive film as the third conductive layer.

'121 Patent at 8:24–54 (emphasis added). The parties dispute whether "each pixel" means each pixel of the claimed device, or each pixel of the recited plurality of pixels.

D. U.S. Patent 9,263,509

The '509 Patent "relates to a pixel structure capable of improving the overall luminous uniformity of a display panel." '509 Patent at 1:17–19. More specifically, the patent addresses "the problem of poor overall luminous uniformity that occurs on the traditional electroluminescent device." *Id.* at 1:48–50. At the time of invention, conventional top emission display technology had:

> difficulty in fabricating thin electrodes, low transmittance, high electrode resistance, and serious IR drop that occurs on large-sized electroluminescent devices. In addition, according to the traditional circuit design of top emission display technology, the current may be easily affected by decline of elements of the electroluminescent devices. [Because] the luminance of each pixel of the electroluminescent device is related to the current that flows through the pixel, the overall luminous uniformity of the electroluminescent device is low.

Id. at 1:31–44.

The patent teaches addressing these deficiencies with an "auxiliary electrode." Specifically:

> [a] first electrode layer of the light emitting device is electrically connected with the auxiliary electrode. Therefore, the design of the invention that coordinates the first electrode layer of the light emitting device with the auxiliary electrode decreases the resistance of the first electrode layer through parallel connection, so as to significantly reduce the total resistance of the pixel structure, thereby improving the overall luminous uniformity of the display panel.

Id. at 2:17–23.

The parties have two disputes concerning the patent, both of which relate to Claim 1:

> 1. A pixel structure, comprising:
>
> a data line and a scan line;
>
> at least one active device electrically connected with the data line and the scan line, and each active device comprising a gate, a channel layer, a source, and a drain;
>
> a first **auxiliary electrode** electrically insulated from the active device; and
>
> a light emitting device **disposed above** the first **auxiliary electrode**, wherein the light emitting device comprises:
>
> a first electrode layer electrically connected with the first **auxiliary electrode**;
>
> a light emitting layer disposed on the first electrode layer; and
>
> a second electrode layer disposed on the light emitting layer, wherein the second electrode layer is electrically connected with the active device.

'509 Patent at 1:42–57 (emphasis added). Specifically, the parties dispute the scope of "auxiliary electrode," and BOE challenges "disposed above," and "disposed at a side of" in Claim 10, as indefinite.

II. LEGAL STANDARDS

A. Generally

"[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). As such, if the parties dispute the scope of the claims, the court must determine their meaning. *See, e.g.*, *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1317 (Fed. Cir. 2007) (Gajarsa, J., concurring in part); *see also Markman v. Westview Instruments, Inc.,* 517 U.S. 370, 390 (1996), *aff'g,* 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc).

Claim construction, however, "is not an obligatory exercise in redundancy." *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). Rather, "[c]laim construction is a matter of [resolving] disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims . . . ." *Id.* A court need not "repeat or restate every claim term in order to comply with the ruling that claim construction is for the court." *Id.*

When construing claims, "[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning." *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citing *Phillips*, 415 F.3d at 1312–13). Courts must therefore "look to the words of the claims themselves . . . to define the scope of the patented invention." *Id.* (citations omitted). The "ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.,* as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1313. This "person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.*

Intrinsic evidence is the primary resource for claim construction. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *Phillips*, 415 F.3d at 1312). For certain claim terms, "the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314; *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) ("We cannot look at the ordinary meaning of the term . . . in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.").

But for claim terms with less-apparent meanings, courts consider "those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean . . . [including] the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Phillips*, 415 F.3d at 1314.

B. Indefiniteness

"[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc*., 572 U.S. 898, 901 (2014). The claims "must be precise enough to afford clear notice of what is claimed" while recognizing that "some modicum of uncertainty" is inherent due to the limitations of language. *Id.* at 909. "Indefiniteness must be proven by clear and convincing evidence." *Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

III. THE LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art is the skill level of a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In resolving the appropriate level of ordinary skill, courts consider the types of and solutions to problems encountered in the art, the speed of innovation, the sophistication of the technology, and the education of workers active in the field. *Id.* Importantly, "[a] person of ordinary skill in the art is also a person of ordinary creativity, not an automaton." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

The parties dispute the level of ordinary skill in the art. Optronic says a skilled artisan would have a bachelor's degree in engineering or physics, and at least two years of experience in the field relevant to the patent. Dkt. No. 96 at 2. It criticizes BOE's proposed level of skill—a bachelor's degree in electrical engineering or mechanical engineering and 2–3 years of professional experience with electronic and optoelectronic device design, Dkt. No. 98 at 1—as broad enough to include "most working-age adults with experience using a smartphone, computer, or any other device with a screen in a professional context." Dkt. No. 96 at 2. BOE calls Optronic's concerns "unfounded" and agrees that a skilled artisan would not include, for example, someone who designs automobile electronics or laypersons using cell phones. Dkt. No. 98 at 1. BOE also objects that under Optronic's characterization any engineering degree would suffice, *id.*, although Optronic proposes to amend its education requirement to a bachelor's degree in electrical engineering or a comparable field, Dkt. No. 100 at 1.

Having considered the parties' positions and reviewed their respective experts' declarations, for the purpose of resolving these disputes, the Court holds a person of ordinary skill at the time of invention for each of the patents would have had a bachelor's degree in electrical

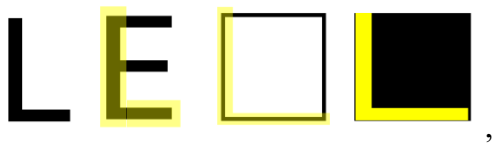
engineering, mechanical engineering, or physics and two years[2] of professional experience with the design and manufacturing of electronics displays and pixel technology. "Professional experience" excludes merely using a device with a display.

IV. THE DISPUTED TERMS

A. "substantially L-shaped structure" ('842 Patent, Claims 3, 7)

Optronic's Construction	BOE's Construction
No construction necessary.	Plain and ordinary meaning, i.e., shaped substantially like an L "Comprising" does not operate to literally encompass other shapes.

Claim 3 recites "a first fastener having a first portion and a second portion, the first portion disposed adjacent to the first side of the light guiding plate, wherein the first portion and the second portion are arranged in a substantially perpendicular relationship to form *a substantially L-shaped structure*." '842 Patent at 4:40–45 (emphasis added). BOE asks the Court to limit the scope of "substantially L-shaped structure" so that an expert cannot "carve out an L-shaped sub-portion of a structure . . . and ask the jury to determine whether that sub-portion is substantially L-shaped." Dkt. No. 98 at 2. For example, in these four shapes,



,

[2] Optronic's requirement of "at least two years" is unbounded as to the amount of experience, effectively treating 2 years and 40 years as equivalent.

an expert should not be able to point to the yellow portions and say they meet the "substantially L-shaped structure" requirement. *Id.*

In its reply, Optronic says BOE takes the limitation out of context. Dkt. No. 100 at 2. To Optronic, the dispute is different. With respect to the "E" for example, Optronic separates the "L" portion of the "E" from the middle and top arms and asks whether the "fastener" portion of the structure is limited to the former or whether, for example, the middle and top arms might perform some other function. *Id.*

The Court sees no dispute about scope. BOE essentially asks the Court to construe "substantially L-shaped" as "substantially L-shaped." Hr'g Tr., Dkt. No. 110 at 8:25–9:2. It asks the Court to instruct the experts "to take the structures in the accused products and apply those structures to the limitation 'substantially L-shaped structure,' not a subdivision or subportion of the structure." *Id*. at 9:9–13. In essence, that's simply a request to instruct Optronic to apply the most fundamental rule of patent infringement—that to infringe, an accused device must meet each limitation of the asserted claim. That's a strong sign that this is a question of fact rather than a claim construction issue. Accordingly, the Court adopts a "plain and ordinary meaning" construction for this term.

B. "disposed above" ('509 Patent, Claim 1); "disposed at a side of" ('509 Patent, Claim 10)

Optronic's Construction	BOE's Construction
Plain and ordinary meaning	Indefinite

Claim 1 of the '509 Patent recites:

> 1. A pixel structure, comprising:
> a data line and a scan line;
> at least one active device . . . ;

> a first auxiliary electrode electrically insulated from the active device; and
>
> a light emitting device **disposed above** the first auxiliary electrode, wherein the light emitting device comprises:
>
> a first electrode layer electrically connected with the first auxiliary electrode;
>
> a light emitting layer disposed on the first electrode layer; and
>
> a second electrode layer disposed on the light emitting layer, wherein the second electrode layer is electrically connected with the active device.

'509 Patent at 1:42–57 (emphasis added). Similarly, Claim 10 recites:

> 10. The pixel structure according to claim 1, further comprising a second auxiliary electrode electrically insulated from the active device and **disposed at a side of** the light emitting device, wherein the second auxiliary electrode is electrically connected with the first electrode layer of the light emitting device.

Id. at 10:6–11 (emphasis added).

BOE asserts there is no frame of reference for determining if a light emitting device is *disposed above* a first auxiliary electrode or *at a side of* the light emitting device. Dkt. No. 98 at 8–11. Optronic, however, says "disposed above" means away from the substrate, Dkt. No. 96 at 5, to which BOE responds the claim does not recite a "substrate," Dkt. No. 98 at 8. The parties make similar arguments with respect to "disposed at a side of" in Claim 10. *See id.* at 11.

The Court agrees with BOE. Optronic's expert opines that a skilled artisan would know "above" is in the direction away from the substrate because that's the direction light travels. Bretschneider Decl., Dkt. No. 96-9 ¶¶ 78–79. But the claim doesn't recite a substrate, so a skilled artisan has no reference point from which to decide that relative position. In addition, BOE presents evidence of "bottom emission devices," in which the light goes towards and through the substrate.

Bretschneider Depo. Tr., Dkt. No. 98-30 at 81:10–12 (explaining that in bottom emission devices "[t]he light goes in a downward direction"). That seems to contradict Dr. Bretschneider's opinion. But given an opportunity to explain how his opinion squares with "bottom emission devices," he passed, *id.* at 82:5–24, which leaves the Court to conclude there is no good explanation. These terms are indefinite.

C. "the second portion extending above the light guiding plate" ('842 Patent, Claim 7)

Optronic's Construction	BOE's Construction
Plain and ordinary meaning	Indefinite

This dispute is like the dispute about "disposed above." Claim 7 recites:

> 7. A backlight package comprising:
>
> a light guiding plate having a first side;
>
> a first fastener having a first portion and a second portion, the first portion extending along the first side of the light guiding plate, and **the second portion extending above the light guiding plate** wherein the first portion and the second portion are arranged in a substantially perpendicular relationship to form a substantially L-shaped structure . . . .

'842 Patent at 4:62–5:3 (emphasis added).

As with the prior dispute, BOE challenges this claim as indefinite because it has no frame of reference, so it's unclear what it means for the second portion of the first fastener to be "above the light guiding plate." Dkt. No. 98 at 4–5. According to Optronic, because these devices were designed to be used in a display, the back of the display is the bottom and "above" refers to the direction the light would travel to the screen. Dkt. No. 96 at 6 (citing Bretschneider Decl., Dkt. No. 96-9 ¶¶ 78, 88).

Here, too, the Court agrees with BOE. The specification never uses the term "above" when describing the figures. The specification does, however, use "top" and "bottom." For example, with reference to Figure 1 (below), the patent explains "each LED module 10 emits light via a ray 12 toward the *top* of the LGP 11 enclosure, which then reflects as ray 13 to the end of the LGP 11 enclosure closest to the LED module 10, and then reflects back along ray 14 to travel along the length of the LGP 11." '842 Patent at 1:37–41 (emphasis added). Moreover, "the LED modules 10 are shown in a conventional configuration, i.e., they are placed at the *bottom* of an LGP 11, at each of the two ends of the LGP 11." *Id.* at 1:35–37 (emphasis added). These passages suggest that, at least for Figure 1, "above" is at the top of the page and "below" is at the bottom.

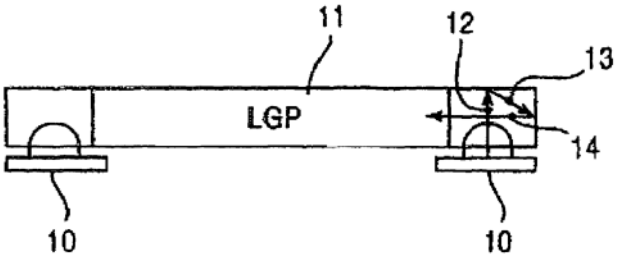


Fig.1

With respect to Figure 4 (below), however, that would mean the second portion of the fastener is "below" the LGP—not "above" it. But one could make the second portion "above" the LGP by simply rotating the device as shown 180 degrees along the longitudinal axis.

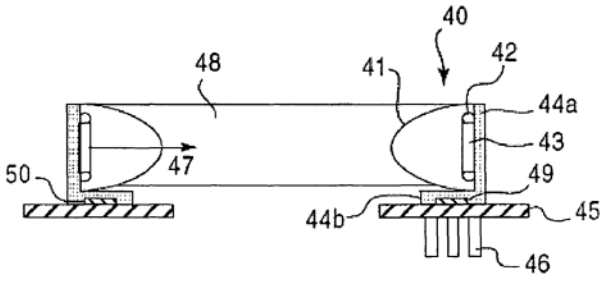


Fig.4

In its reply, Optronic says Figure 4 is a cross section of a preferred embodiment that is cut in the wrong direction for this limitation, and calls it "irrelevant to the plain meaning of the term." Dkt. No. 100 at 4. But Figure 4 is shown in the same orientation as the prior-art backlight packages of Figure 1, the description of which uses the terms "top" and "bottom." And that the patent apparently doesn't show an embodiment of Claim 7 to help clarify what the term means undercuts any notion that a skilled artisan would be reasonably certain about its scope.

Optronic's expert's declaration doesn't save the claim. He opines:

> A POSITA would understand that "directional" terms like "above" are to be considered with the understanding that these devices are to be used in a display device like a computer monitor or a phone screen. A structure is therefore "above" another if, in the line through which light travels from the display to the eye, it is "above."

Bretschneider Decl., Dkt. No. 96-9 ¶ 78. Not only is that opinion conclusory, but it also fails to explain how that resolves the apparent inconsistency in the specification between Figures 1 and 4. In fact, Dr. Bretschneider testified he could not tell from Figure 4 which way is up without the rest of the display, which isn't a claim limitation. *See* Bretschneider Depo. Tr., Dkt. No. 98-30 at 100:1–18 ("Q: Do you have an opinion, sitting here today, whether the second portion, 44B, is below the light guide plate 48? A: Again, I didn't offer the opinion, because it's talking about the light guide plate. The rest of the display isn't there."). If Optronic's expert cannot apply his own opinion about

the direction of light to tell which way is "above" from Figure 4, neither can a skilled artisan. Accordingly, the Court holds this term is indefinite.

D. "fastener" ('842 Patent, Claims 3, 7)

Optronic's Construction	BOE's Construction
"a feature that attaches something"	"a feature that holds something in place"

Optronic says its construction is the ordinary meaning of the term. Dkt. No. 96 at 7. BOE responds that, "[b]ecause the claims explicitly recite the structural relationships between the fastener and the other components, the Court should not read an 'attaches' function into the claim." Dkt. No. 98 at 12 (citing *Toro Co. v. White Consol. Indus.*, 266 F.3d 1367, 1371 (Fed. Cir. 2001), for the proposition that functional limitations in the specification should not be imported into claims). BOE also says Optronic's construction is too narrow because one could "fasten" something in place by "holding" it there. Based on BOE's response, Optronic says the dispute is whether a "fastener" "attaches" or "holds," which it says is overly broad. Dkt. No. 100 at 4.

At the hearing, the Court proposed a preliminary construction of "a feature that attaches or holds something in place." Both parties accepted that construction, Hr'g Tr., Dkt. No. 110 at 42:12–43:2, which the Court now adopts.

E. <u>Allegedly Limiting Preambles:</u>

"A sealant region pattern for a liquid crystal display" / "The sealant region of claim 9" ('801 Patent, Claims 9, 10)

"An encapsulating structure for a liquid crystal display device" / "The structure claimed in claim 1" ('914 Patent, Claims 1, 5)

Optronic's Construction	BOE's Construction
Not limiting	Preambles are limiting

In its briefing, BOE says the preambles of these claims are limiting because they state a fundamental characteristic of the claimed invention. Dkt. No. 96 at 8–10. At the hearing, however, the parties clarified that the scope of the dispute was really about the phrases "a sealant region pattern" and "an encapsulating structure." The parties and the Court agree the preambles are limiting only as to those phrases. *See generally* Hr'g Tr., Dkt. No. 110 at 43:3–44:10.

F. <u>The Saw-Tooth Limitations</u>: "comprising / saw tooth opening" ('801 Patent, Claim 9); "comprising / saw tooth pattern" ('914 Patent, Claim 1)

Optronic's Construction	BOE's Construction
Plain and ordinary meaning	Plain and ordinary meaning, i.e., "opening that looks like the teeth of a saw blade" "Comprising" does not operate to literally encompass other shapes.

This dispute is like the dispute about "L-shaped structure" in that the parties agree what a saw-toothed shape is, but BOE worries that the claim's transition word "comprising" might allow Optronic to parse out part of a shape as "saw-toothed." The Court agrees with BOE that is not the meaning of "comprising." Given the parties' agreement as to the ordinary meaning of this term. and for the reasons set forth above concerning "substantially L-shaped structure," the Court will give this term a "plain and ordinary meaning" construction.

G. "formed on" ('801 Patent, Claim 9); "directly formed on" ('121 Patent, Claim 1); "the gate oxide layer in the first area is formed directly on the substrate" ('117 Patent, Claim 1)

Optronic's Construction	BOE's Construction
"formed on" ('801 Patent, Claim 9)	
Plain and ordinary meaning, which is "forming in a manner directly touching the below layer or substrate"	"formed on" is entitled to its plain and ordinary meaning

"directly formed on" ('121 Patent, Claim 1)	
Plain and ordinary meaning	Plain and ordinary meaning, i.e., "formed on without any intervening material"
"the gate oxide layer in the first area is formed directly on the substrate" ('117 Patent, Claim 1)	
Plain and ordinary meaning	Plain and ordinary meaning, i.e., "the gate oxide layer in the first area is formed on the substrate without any intervening material"

The parties dispute whether each of these terms should have the same meaning. At the hearing, the Court tentatively construed each of these terms as "formed in a manner directly touching the layer below." BOE agreed with that construction for Claim 9 of the '801 Patent, but maintains "formed on" is broader than "directly formed on" and "formed directly on." Hr'g Tr., Dkt. No. 110 at 44:21–22. BOE also criticizes Optronic's position as potentially allowing for one layer to be considered "formed on" another layer if the layers simply touch. Dkt. No. 98 at 19.

BOE's main argument relates to the prosecution history of the '121 Patent and the applicants' addition of the "directly formed on" language to overcome a rejection based on U.S. Published Appl'n 2002/0104995 (Yamazaki). At the time of the relevant office action, Claim 1 recited

> a transistor in the second area, the transistor including a first semiconductor layer formed on the substrate, a first gate oxide layer over the first semiconductor layer, and a fourth conductive layer over the first gate oxide layer, wherein the fourth conductive layer is formed of the same conductive film as the first conductive layer . . . .

See Office Action & Resp., Dkt. No. 98-17 at 3. Apparently relying on the description of Figure 5D of Yamazaki, the examiner mapped this limitation's components as follows:

Claim Component	**Item in Yamazaki**
substrate	200
first semiconductor layer	203

first gate oxide layer	205
fourth conductive layer	212
first conductive layer	229

Id. at 19. Thus, according to the examiner, Figure 5D (below) from Yamazaki disclosed this limitation as it was then written.

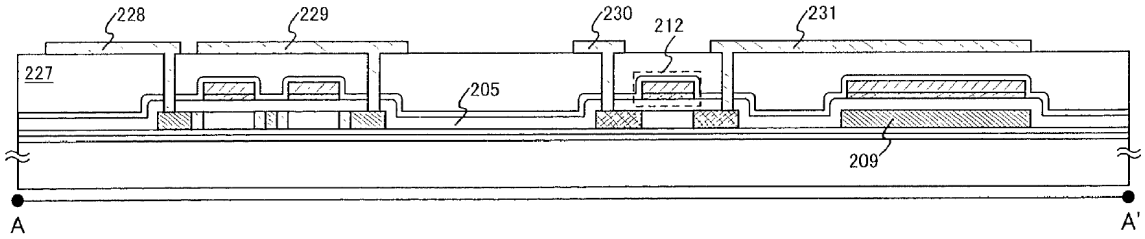


Figure 5D of Yamazaki

The applicants then amended the claim to read:

> a transistor in the second area, the transistor including a first semiconductor layer formed on the substrate, a first gate oxide layer over the first semiconductor layer, and [[a]] the fourth conductive layer over the first gate oxide layer, wherein the fourth conductive layer is formed of the same conductive film as the first conductive layer, and wherein both the first conductive layer and the fourth conductive layer are directly formed on the gate oxide layer . . . .

Office Action & Resp., Dkt. No. 98-17 at 3. With those amendments, the applicants remarked that the claim as amended was patentable because

> *Yamazaki* fails to disclose "wherein both the first conductive layer and the fourth conductive layer are directly formed on the gate oxide layer." Indeed, as shown in FIG. 7B of *Yamazaki* (reproduced below), the conductive wiring (229) in *Yamazaki* is not directly formed on the gate oxide layer (allegedly the gate insulating film 205 in *Yamazaki).*

Id. at 11. According to BOE, as shown below, this shows the applicant "expressly characterized wiring 229 as 'not directly formed on' film 205, even though wiring 229 directly touches film 205." Dkt. No. 98 at 20.

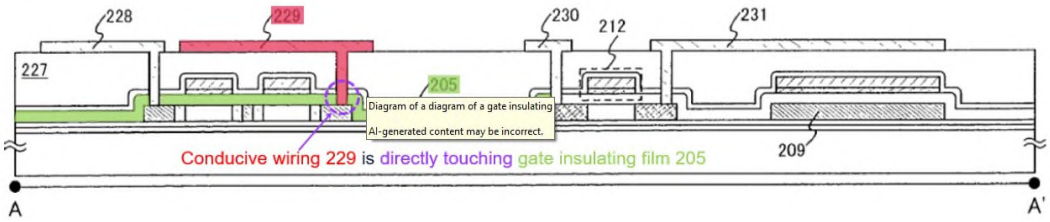


Fig. 5D of Yamazaki as annotated by BOE. Dkt. No. 98 at 19.

This is not a disclaimer that supports BOE's position. For one, the applicants didn't tie whether one thing is "formed on" or "directly formed on" another to whether they touch. Instead, the applicants simply said, "the conductive wiring (229) in *Yamazaki* is not directly formed on the gate oxide layer." In fact, the conductive wire does not appear to be "on" the film, but instead appears to extend through the film. Thus, it is at least equally possible the basis for the applicants' statement could be rooted in the notion that the conductive wire is not "on" the film. And where there are multiple reasonable interpretations, finding disclaimer is not appropriate. *See N. Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1293-95 (Fed. Cir. 2000) (holding that prosecution disclaimer did not apply because the inventors' statements were amenable to multiple reasonable interpretations). Because BOE has not shown disavowal, the Court adopts its tentative constructions for these terms: "formed in a manner directly touching the layer below."

H. "a predetermined material layer formed on the first substrate" ('801 Patent, Claim 9)

Optronic's Construction	BOE's Construction
Plain and ordinary meaning (accounting for the constructions of "layer" and "formed on")	"one or more material layers formed on the first substrate prior to forming the organic layer"

This dispute concerns the second part of BOE's construction. Optronic accuses BOE of importing an ordering requirement into this apparatus claim. Dkt. No. 100 at 7. BOE, however, points to the claim's requirement that the organic material layer be "formed on" the predetermined material layer. Dkt. No. 98 at 15–18.

The Court fails to see how the second part of BOE's construction relates to the word "predetermined." The ordinary meaning of "predetermine" is "to determine, decide, or establish in advance." *See* https://www.yourdictionary.com/predetermine. Thus, any decision about the material layer must be made in advance of when it is "formed on" the substrate. That seems obvious in the semiconductor arts, so "predetermined" might effectively be superfluous. But that does not, without more, require an ordering of steps, especially in an apparatus claim. Accordingly, the Court will give this term a "plain and ordinary meaning" construction.

I. "wherein the sealant is adapted to contact the first material layer and the second material layer through the opening, and the sealant has substantially flat contact bottom surfaces with the first and second material layers via the opening" ('914 Patent, Claim 1)

Optronic's Construction	BOE's Construction
Plain and ordinary meaning	Plain and ordinary meaning where "and" is conjunctive and does not encompass "or." I.e., wherein the sealant is adapted to contact both the first and second layers through the opening and the sealant has substantially flat contact bottom surfaces with **both** the first and second material layers via the opening.

Claim 1 recites:

> 1. An encapsulating structure for a liquid crystal display device, comprising:
>
> a first substrate having a sealant region;
>
> a second substrate;
>
> a first material layer disposed on the first substrate;
>
> a second material layer disposed on the first material layer, wherein the second material layer includes an opening with a continuous saw tooth pattern extending along the sealant region to expose the underlying first material layer; and
>
> a sealant disposed on the second material layer in the sealant region and filled into the opening of the second material layer for attaching the second substrate to the first substrate;
>
> **wherein the sealant is adapted to contact the first material layer and the second material layer through the opening, and the sealant has substantially flat contact bottom surfaces with the first and the second material layers via the opening** with the continuous saw tooth pattern extending along the sealant region.

'914 Patent at 4:58–5:10 (emphasis added). In their briefing, the parties disputed the meaning of the first part of the last limitation, which BOE says requires the sealant to contact, through the

opening, both the first and second material layers. Dkt. No. 98 at 20–22. Optronic suggested that only the second material layer needs to be contacted through the opening. Dkt. No. 96 at 17. Optronic also suggested BOE's interpretation is inconsistent with the "second material limitation" from earlier in the claim. *Id.*

The dispute shifted at the hearing. For one, Optronic conceded that "and" was conjunctive, and instead focused its arguments on "via the opening." *See* Hr'g Tr., Dkt. No. 110 at 57:23–58:14. Optronic framed its concern as, under BOE's interpretation of the limitation, "the bottom contact surfaces had to be within the opening as opposed to . . . the sealant forming the contact layers through . . . or by way of the opening." *Id.* at 59:19–23. For example, Optronic suggested FIG. 1C of the '914 Patent (below) would meet this claim limitation.

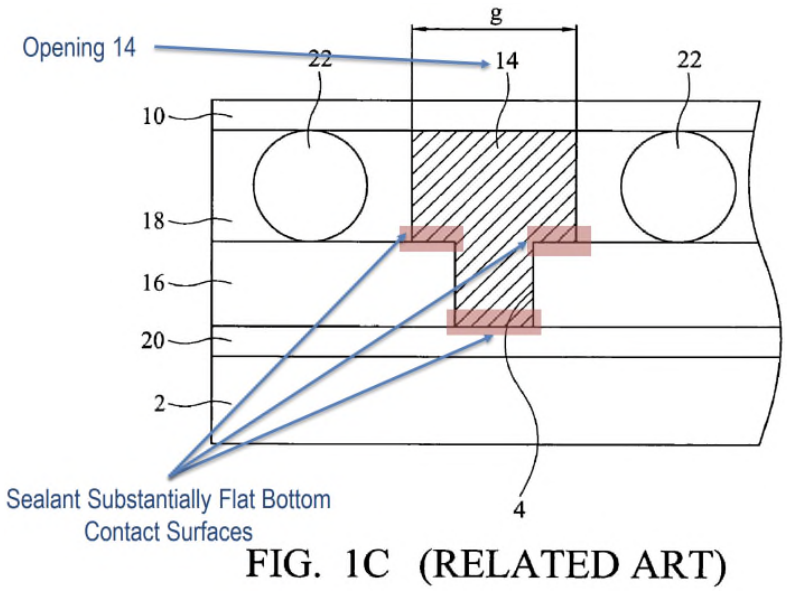


FIG. 1C (RELATED ART)

Slide 41 of Optronic's Hearing Slides, Dkt. No. 108-1 at 41, showing an embodiment Optronic contends satisfies the disputed limitation.

As the Court noted during the hearing, that seems like a stretch. *See* Hr'g Tr., Dkt. No. 110 at 63:4–6. Regardless, this is not a claim construction dispute because both parties agree that "via" means "through" or "by way of." *See id.* at 63:1–3. Thus, the claim language is clear, and it's a

question of whether a particular device meets that limitation. The Court construes this limitation as "wherein the sealant is adapted to contact both the first material layer and the second material layer through the opening, and the sealant has substantially flat contact bottom surfaces with both the first and second material layers via the opening."

J. "each pixel" / "each pixel area" ('121 Patent, Claims 1–2)

Optronic's Construction	BOE's Construction
Plain and ordinary meaning	Each and every pixel / each and every pixel area

Claim 1 recites "a substrate" and "a plurality of pixels formed on the substrate, each pixel being in a respective pixel area." '121 Patent at 8:27–30. The claims then require each of the "plurality of pixels" to have first, second, and third areas that meet certain structural limitations. *Id.* at 8:31–54.

In their briefing, BOE seemed concerned Optronic believes not every pixel of the plurality of pixels must meet the recited limitations. Dkt. No. 98 at 22. Optronic, however, says this is a non-existent dispute and agrees that each pixel of the recited plurality must meet the requirements. Dkt. No. 100 at 8–9. But Optronic objects to the words "and every" in BOE's construction as possibly suggesting to a jury that every pixel in the accused *display* (as opposed to the plurality of pixels) must meet the limitations. Dkt. No. 96 at 18.

In fact, that's the true dispute. BOE relies on *In re Skvorecz*, 580 F.3d 1262 (Fed. Cir. 2009), which concerned a rejection of claims in reissue patent application 09/772,278. The '278 Application was directed to a wire chafing stand, which the PTO concluded was anticipated by U.S. Patent 5,503,062 (Buff). *In re Skvorecz*, 580 F.3d at 1265–66. At the time, Claim 1 of the '278 Application recited:

> 1. A wire chafing stand comprising a first rim of wire steel which forms a closed geometrical configuration circumscribing a first surface area, and having at least two wire legs with each wire leg having [specific structural limitations including "offsets" for displacing the legs relative to the rim].

Id. at 1265. Not all of Buff's wire legs had offsets. The Patent Office asserted that because of "the open-ended transition term 'comprising,'" Claim 1 did not require every leg to have the offsets for displacing the legs relative to the rim. *Id.* at 1267. The Court concluded that "[t]he Board erred in holding that some wire legs of the Skvorecz device, as claimed, need not have an offset, when the claims state that each wire leg has an offset." *Id.* In other words, the appellate court read the claim language "each wire leg" as referring to the "wire chafing stand," not the "at least two wire legs" recited in the body.

Here, a key difference from *Skvorecz* is the structure of the claim. Unlike *Skvorecz*'s Claim 1, which is a wall of unbroken text, Claim 1 separately recites the limitation of "a plurality of pixels formed on the substrate, each pixel being in a respective pixel area." '121 Patent at 8:27–30. Thus, "each pixel" clearly refers to the "plurality of pixels" rather than the device as a whole or the substrate. Accordingly, the Court will give this term a "plain and ordinary meaning" construction, which does not require each pixel *on the substrate* to have the subsequent structural requirements.

K. "defining at least a first area for capacitors and a second area for a transistor on the substrate" ('117 Patent, Claim 1)

"defining at least a first area for capacitors, a second area for a transistor on the substrate and a third area for an organic light-emitting diode (OLED) on the substrate ('222 Patent, Claim 1)

Optronic's Construction	BOE's Construction
Plain and ordinary meaning	"defining at least a first area for capacitors and a non-overlapping second area for a transistor on the substrate" ('117 Patent, Claim 1) "defining at least a first area for capacitors, a second area for a transistor on the substrate and a third area for an organic light-emitting diode (OLED) on the substrate" ('222 Patent, Claim 1)

The parties dispute whether the "first area," "second area," and, in the case of the '222 Patent, "third area" must be non-overlapping. BOE points to the specification for its constructions, which it says provides "meaningful metes and bounds . . . and should therefore be adopted." Dkt. No. 98 at 23. According to BOE, Optronic's position renders these limitations superfluous, because "the claim could have just recited forming the pixel components." *Id.* at 24. Moreover, "[i]f the area on the substrate for the non-light-emitting circuit elements (such as capacitors and transistors) overlaps with the area on the substrate for the OLEDs, the non-light-emitting circuit elements will block the light emitted by the OLED before it can be emitted through the substrate." *Id.* In other words, a device in which the first, second, and third areas overlap won't work. Finally, BOE concludes that "[i]f the areas can be overlapping . . . , the purported novelty of the invention and improvements to the aperture ratio would be meaningless." Dkt. No. 98 at 24.

The Court agrees with Optronic. First, nothing about the ordinary meaning of "area" requires that two or more "areas" not overlap, like the area of a master bedroom overlaps with the area of the house. BOE does not present evidence that "area" has a different meaning in this art.

Second, the Court disagrees that, absent BOE's construction, these terms would be meaningless. After defining the first, second, and third areas, the claims recite a series of steps that must happen within each area to make the device. If nothing else, defining the areas makes the claim more readable. Third, that one embodiment might not operate (e.g., an embodiment in which the areas overlap) when others will (e.g., embodiments without overlap) does not inform the meaning of the claim language. Finally, BOE's reliance on the specification merely points to a preferred embodiment. In short, the Court sees no basis for deviating from the "plain and ordinary meaning" of "area," which does not require the areas to not overlap.

L. "is electrically connected to" ('222 Patent, Claim 1)

Optronic's Construction	BOE's Construction
Plain and ordinary meaning	"is connected such that electric conduction current can flow to"

In the briefing, the parties disputed whether the recited electrical connections can "be direct (such as connecting to a battery) or indirect (such as a capacitive electrical connection)." Dkt. No. 96 at 19. In its response, BOE made persuasive arguments that the applicants disclaimed capacitive electrical connections when overcoming U.S. Published Appl'n 2003/0117059 (Koo) in a related application. Dkt. No. 98 at 25–28.

At the hearing, Optronic agreed there was some sort of disclaimer, Hr'g Tr., Dkt. No. 110 at 76:10–17, and the parties argued over which language best captured the extent of that disclaimer. In the end, however, both parties agree BOE's' construction is accurate, and means the same thing as Optronic's suggested construction of "electrically connected to does not encompass connection solely by capacitive coupling." *Id.* at 78:7–19. Thus, while there may be a dispute about wording,

there is no dispute about scope. Accordingly, based on the disclaimer, the Court construes "is electrically connected to" as "is connected such that electric conduction current can flow to."

M. "auxiliary electrode" ('509 Patent, Claims 1, 5, 10)

Optronic's Construction	BOE's Construction
Plain and ordinary meaning, meaning an "electrode which does not perform a primary and essential functionality"	"supplemental electrode"

Claim 1 recites:

> 1. A pixel structure, comprising:
>
> a data line and a scan line;
>
> at least one active device electrically connected with the data line and the scan line, and each active device comprising a gate, a channel layer, a source, and a drain;
>
> a first **auxiliary electrode** electrically insulated from the active device; and
>
> a light emitting device disposed above the first **auxiliary electrode**, wherein the light emitting device comprises:
>
> a first electrode layer electrically connected with the first **auxiliary electrode**;
>
> a light emitting layer disposed on the first electrode layer; and
>
> a second electrode layer disposed on the light emitting layer, wherein the second electrode layer is electrically connected with the active device.

'509 Patent at 8:42–57 (emphasis added).

The parties dispute the meaning of "auxiliary electrode." Optronic's proposal is functional and focuses on the patent's references to reducing the total resistance of a pixel structure, which improves the uniformity of the brightness. Dkt. No. 96 at 22–23. Optronic complains about the

breadth of BOE's construction, alleging it changes the meaning of "auxiliary" to "any other." Dkt. *Id.* at 23. BOE says the claims support its construction because they do not explicitly state what the "auxiliary electrode" is "auxiliary" to. Dkt. No. 98 at 28. Nor is it limited to any type of supplemental functionality. *Id.* at 30.

Both parties' positions are flawed. Regarding Optronic's functional construction, a patent covers "what a device is, not what it does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990). Thus, the Court prefers to avoid construing structural terms using functional language whenever possible. Moreover, Optronic's construction would raise other disputes, such as the scope of "primary and essential functionality." BOE's construction is better, but just changes "auxiliary" to "supplemental," raising a similar question—"supplemental" to what?

The Court agrees "auxiliary" must be given some meaning. Based on dictionary definitions in the record, a skilled artisan would understand "auxiliary" as either an "alternate" or a "supplement." See *auxiliary anode*, Wiley Elec. & Elecs. Eng'g Dict., Dkt. No. 96-22 at 51 ("a supplementary anode utilized to obtain a better distribution of plating"); *auxiliary channel*, *id.* ("A supplemental communications channel, which can serve, for instance, for backup, for testing, or for transmission of a secondary audio program."); *auxiliary circuit*, *id.* ("A supplementary circuit which can serve, for instance, as an alternate path for current."); *auxiliary contacts*, *id.* ("In a switching device, supplemental contacts whose function is linked to that of the main circuit contacts."); *auxiliary device*, *id.* ("A device which serves in a supplemental or auxiliary capacity, or that is added to enhance the performance of the main device."); *auxiliary equipment*, *id.* ("Equipment which serves in a supplemental or auxiliary capacity, or that is added to enhance performance."); *auxiliary function*, *id.* ("A function which is supplements or enhances the operation of a device, piece of equipment, or system."); *auxiliary power*, *id.* ("An alternate or supplemental

source of electrical power that may be used when the main power source is interrupted, depleted, or insufficient."); *auxiliary switch*, *id.* ("[a] switch that works in unison with another"). The Court therefore construes "auxiliary electrode" as "electrode that works in unison with another electrode."

V. CONCLUSION

Disputed Term	The Court's Construction
"substantially L-shaped structure" ('842 Patent, Claims 3, 7)	Plain and ordinary meaning
"the second portion extending above the light guiding plate" ('842 Patent, Claim 7)	Indefinite
"disposed above" ('509 Patent, Claim 1) "disposed at a side of" ('509 Patent, Claim 10)	Indefinite
"fastener" ('842 Patent, Claims 3, 7)	"a feature that attaches or holds something in place"
"A sealant region pattern for a liquid crystal display" ('801 Patent, Claims 9, 10) "An encapsulating structure for a liquid crystal display device" ('914 Patent, Claims 1, 5)	The preambles are limiting only with respect to "a sealant region pattern" in the '801 Patent and "an encapsulating structure" in the '914 Patent
"saw tooth opening" ('801 Patent, Claim 9); "saw tooth pattern" ('914 Patent, Claim 1)	Plain and ordinary meaning

"formed on" ('801 Patent, Claim 9) "directly formed on" ('121 Patent, Claim 1) "the gate oxide layer in the first area is formed directly on the substrate" ('117 Patent, Claim 1)	"formed in a manner directly touching the layer below"
"a predetermined material layer formed on the first substrate" ('801 Patent, Claim 9)	Plain and ordinary meaning
"wherein the sealant is adapted to contact the first material layer and the second material layer through the opening, and the sealant has substantially flat contact bottom surfaces with the first and second material layers via the opening" ('914 Patent, Claim 1)	"wherein the sealant is adapted to contact both the first material layer and the second material layer through the opening, and the sealant has substantially flat contact bottom surfaces with both the first and second material layers via the opening"
"each pixel" / "each pixel area" ('121 Patent, Claims 1, 2)	Plain and ordinary meaning
"defining at least a first area for capacitors and a second area for a transistor on the substrate" ('117 Patent, Claim 1) "defining at least a first area for capacitors, a second area for a transistor on the substrate and a third area for an organic light-emitting diode (OLED) on the substrate" ('222 Patent, Claim 1)	Plain and ordinary meaning
"is electrically connected to" (''222 Patent, Claim 1)	"is connected such that electric conduction current can flow to"
"auxiliary electrode" ('509 Patent, Claims 1, 5, 10)	"electrode that works in unison with another electrode"

The Court **ORDERS** each party not to refer, directly or indirectly, to its own or any other party's claim-construction positions in the presence of the jury. Likewise, the Court **ORDERS** the parties to refrain from mentioning any part of this opinion, other than the actual positions adopted by the Court, in the presence of the jury. Neither party may take a position before the jury that contradicts the Court's reasoning in this opinion. Any reference to claim construction proceedings is limited to informing the jury of the positions adopted by the Court.

SIGNED this 19th day of October, 2025.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

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