

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

PICTIVA DISPLAYS
INTERNATIONAL LTD., KEY
PATENT INNOVATIONS LIMITED

Plaintiffs,

v.

SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG ELECTRONICS AMERICA,
INC.

Defendants.

Civil Action No. 2:23-cv-00495-JRG

JURY TRIAL DEMANDED

DEFENDANTS' RESPONSIVE CLAIM CONSTRUCTION BRIEF

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* “Samsung” collectively refers to Defendants Samsung Electronics Co., LTD and Samsung Electronics America, Inc.

** “Plaintiffs” collectively refers to Plaintiffs Pictiva Displays International Ltd. and Key Patent Innovations Ltd.

*** Emphases added throughout unless otherwise noted.

**** All cited exhibits are attached to the Declaration of Lance Yang filed herewith.

***** Plaintiffs also filed a version of their claim construction brief in *Pictiva Displays International Ltd. et al. v. Samsung Electronics Co., Ltd. et al.*, 2:24-cv-00532-JRG (“*Pictiva IP*”). The Court has not issued a docket control order in that case. Samsung will file a responsive claim construction brief in *Pictiva II* pursuant the deadline set forth the upcoming docket control order.

Samsung construes terms according to their meaning to a POSITA in light of the claims, specification, and prosecution history, as required by *Phillips*. In contrast, Plaintiffs’ proposed constructions are not tethered to the intrinsic or extrinsic record.¹ Plaintiffs have offered ***no evidence*** about how a POSITA would have understood the claims or otherwise tending to show that a POSITA would agree with Plaintiffs’ constructions. Plaintiffs contend that Samsung’s expert “is not even an expert in chemistry,” Br. 1, but the field of all 6 asserted patents is OLED devices, about which Dr. Schubert is a world-renowned expert. Declaration of Dr. E. Fred Schubert (“Schubert Decl.”) at 93-140.

I. ‘389 PATENT TERMS

A. “upon said devices” / “upon said mask and said plurality of devices”

Throughout the intrinsic record, the claim term “upon” devices is used to mean “directly on” such devices, while the claim term “over” is broader, encompassing “above, but not directly on.” *See, e.g.*, Ex. 1 at 1:10-13 (referencing one structure “***over***, but usually ***not touching***” another); 5:25-27 (“FIG. 3B shows that[] barrier layer 308 is selectively deposited ***over*** the OLED devices.”); Fig. 3B (barrier layer 308 not touching OLED devices; 4:56-58 (layer “***upon***” devices is “***the*** layer over” devices, indicating no intervening layers, as shown in Fig. 3A (layer 304 directly on devices 302)); 1:57-62 (planar layer is “substrate ***upon*** which the barrier layer is deposited” to avoid “pin holes” in barrier layer surface (implying no intervening layers)). Distinct claim terms should be understood to have distinct meanings where, as here, they mean distinct things throughout the intrinsic record. *See Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 n. 3 (Fed. Cir. 2006) (“[I]n the absence of any evidence to the contrary, we must presume that the use of ... different terms in the claims connotes different meanings.” (citation omitted)). Thus, within the intrinsic record, the ordinary meaning of

¹ In an effort to narrow the claim construction disputes, Samsung is no longer disputing the constructions of “encapsulation” for the ’425 patent.

“upon” is “directly on.”

Plaintiffs’ purported counterexample—Fig. 1—supports Samsung’s construction. Br. 1-2. Fig. 1 does not relate to any use of the term “upon”; instead, the specification describes Fig. 1 as showing an “encapsulation structure formed **over** an OLED device.” Ex. 1 at 3:20-21. This is consistent with Samsung’s position that “over” is broader than “upon”. Plaintiffs’ second argument—that the possibility of multiple planarization layers “upon” devices implies that “upon” does not mean “directly on” (Br. 1)—is also without merit. Fig. 6E and the related description show how multiple “planarization layers” can, as a group, be **directly on** “devices.” Ex. 1 at 7:66-8:1 (“[B]arrier layer 608 is selectively deposited over *the planarization layers [shaded] covering the OLED devices*”).

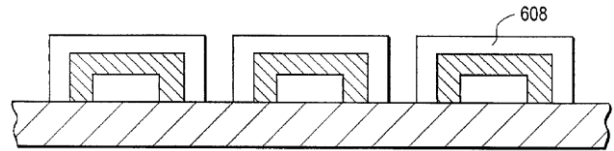


FIG. 6E

Further, during prosecution, the patentee disclaimed that “upon” could include “above, but not directly on.” To distinguish the *Fujii* prior art (Ex. 7) (figures below), the patentee argued that planarization layer 4 was not deposited upon the devices (collectively 3

and 9) because planarization layer 4

FIG. 1B

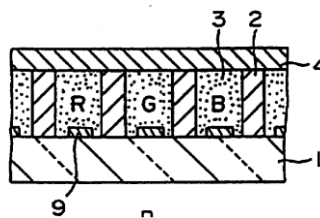
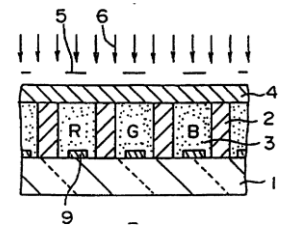


FIG. 1C



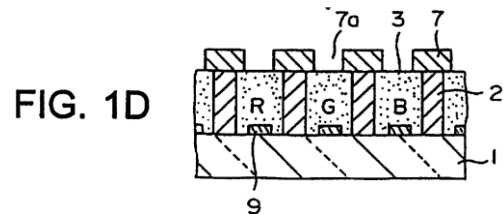
directly sat on barrier ribs 2 but **not** devices 3 and 9. The patentee pointed to this passage from *Fujii* that explains: “[T]he substrate 1 is heated ... as shown in FIG. 1(b). Thereafter, a light-hardening type dry film ... is laminated on the substrate 1 as a photoresist 4. Next, as shown in FIG. 1(c), the pattern is exposed to ultraviolet rays 6 through a dot pattern mask 5” Ex. 7 at 4:29-35. The fluorescent substance 3 in *Fujii* does not contact photoresist 4 because, in an earlier step, “the fluorescent pastes 3 are dried so as to remove a solvent contained in an organic binder thereof.” *Id.* at 4:27-29; *see also* Schubert Decl. ¶ 51. The patentee then argued that the photoresist layer is not deposited “upon said devices” 3 and 9:

In *Fujii*, the photoresist 4 [*Fujii*'s planarization layer] is deposited on barrier ribs 2. See column 4, lines 30-33 ... The electrode 9 and the fluorescent substance 3 together may comprise a device, however, the barrier ribs 2 are not devices Since the photoresist 4 is deposited on the barrier ribs 2, *Fujii* does not disclose 'depositing at least one planarization layer upon said devices.'

Ex. 8 at 13 (emphasis in original). By asserting that layer 4 was “on the barrier ribs 2” but was **not** “upon said devices” 3 and 9, the patentee made clear that, for a planarization layer to be “upon” a device, it must be directly on that device.

In rebuttal, Plaintiffs raise *Fujii* Fig. 1D. Contrary to Plaintiffs' assertion (Br. 3), the examiner raised *Fujii* Fig. **1B** regarding the claim step about “depositing” a planarization layer “upon said devices” (Plfs' Ex. 40 at 3), and in response, the patentees addressed that same claim step, and the same *Fujii* Fig. **1B** (as discussed above), not Fig. 1D. Plaintiffs now make an argument that the patentees never made during prosecution: that “it is

only in and after 1D that the resist is only deposited over the barrier ribs but not the devices.” Br. 3. But Plaintiffs



cannot undo patentees' statements in prosecution by suggesting that the patentees could have made another argument instead. Further, the argument is wrong; Fig. 1D shows that the material cited by Plaintiffs (labeled “7”) is not “only” above the ribs (“2”). The testimony cited by Plaintiffs does not address what is above the “device” (structures 3 and 9 together). Br. 2. Patentees' disclaimer is also not changed by Plaintiffs' unsupported (and unreasonable) factual assertion that the paste in *Fujii* (labeled “3”) loses no volume when part of it is removed via evaporation. Br. 3; Schubert Decl. ¶ 51.

B. “planarization layer”

Plaintiffs' construction renders the term ambiguous because any layer that “**can** provide a planar surface”—as opposed to actually providing a planar surface—would qualify as a planarization layer. Samsung's construction reflects the plain and ordinary meaning of the term and is confirmed by patentees' own descriptions of a planarization layer to distinguish non-planarization layers in the prior

art. *See Data Engine Techs. LLC v. Google LLC*, 10 F.4th 1375, 1383 (Fed. Cir. 2021).

First, the patentees told the USPTO: “Metals, and copper in particular, that are evaporated onto a layer do not cover up the imperfections of the underlying layer, but rather, the metals reproduce the topography of the underlying layer. Therefore, metals cannot be used as a planarization layer.” Ex. 8 at 16. The intrinsic record shows that the plain and ordinary meaning is in accord. *See* WO2000036665A1 (cited by ’389 patent); Ex. 9 at -853 (“Asperities (high points) in the underlying substrate are replicated in the deposited inorganic barrier layer.... These defects seriously limit the ultimate barrier performance of the films.... [T]he first acrylic layer planarizes the substrate and provides an ideal surface for subsequent deposition of the inorganic barrier thin film.”). Plaintiffs now assert that the patentees’ statement should be disregarded because the patentees purportedly distinguished the prior art primarily on a related basis. Br. 4. This is irrelevant; the patentees’ statement is binding even if it may not have been technically necessary to distinguish the reference. *Data Engine Techs.*, 10 F.4th at 1383 (“[W]e have held patentees to distinguishing statements made during prosecution even if they said more than needed to overcome a prior art rejection”).

Second, the patentees told the USPTO: “[T]he Examiner refers to the ‘sealing material 20’ of *Boronson* as a planarization layer; however, ***this ‘sealing material 20’ of Boronson is not a planarization layer since it is not used to interrupt the propagation of defects from one layer to another layer.***” Ex. 10 at p. 13/21. Thus, the patentees confirmed that “the propagation of defects from one layer to another layer is interrupted” with a “planarization layer.” Plaintiffs assert that the emphasized phrase above indicates that a planarization layer only sometimes is used to interrupt the propagation of defects. Br. 4. This is incorrect: the patentees’ statement is logically equivalent to “if it is a planarization layer, then it is used to interrupt the propagation of defects”; there is no “sometimes.” Br. 4. The case cited by Plaintiffs does not apply because it does not concern prosecution history at all; Plaintiffs assert it concerns “intent,” but intent is irrelevant here. Br. 4 (citing *Sorrell Holdings*, 2024

WL 413432, at *3). Samsung's construction is also supported by the patent specification and the understanding of a POSITA at the time. *See, e.g.*, Ex. 1 at 1:17-37; 1:30-35; 1:57-62; 4:33-41; 6:57-61; 7:4-5; Schubert Decl. ¶¶ 53-59.

C. “selectively depositing”

The patent discloses methods for encapsulating only certain areas that include (1) the technique of depositing followed by “additional processing” to “remov[e]” unwanted material (Ex. 1 at 2:5-23); and (2) the technique of “selectively depositing” (which the patent equates with “deposited in a patterned fashion” (*Id.* at 6:53-63)), where material is deposited only in “desired” areas (6:66-7:13) such that no additional processing must be performed for removing unwanted material. *Compare* cl. 25 *with* cl. 34. Throughout the patent, the term “selectively deposited” is used in contradistinction to techniques that involve deposition followed by subsequent removal. *See, e.g.*, Ex. 1 at 1:8-9; 2:17-29; 2:41-54; 2:60- 64; 3:2, 6:53-63, 6:66-7:13, 7:41-46; Schubert Decl. ¶¶ 60-66; *Info-Hold, Inc. v. Muzak LLC*, 783 F.3d 1365, 1373 (Fed. Cir. 2015) (“The words of a claim are generally given their ordinary and customary meaning, as understood by one of ordinary skill in the art reading the claims in the context of the specification and prosecution history.”). The intrinsic record accords. *See* Ex. 11 (cited by ’389 patent) at 6:18-19 (“Selective depositing means depositing a material on a predetermined place....”), at 7:4-6 (“The ... barrier layer can be deposited using ... selective or non-selective (blanket) chemical vapour deposition. Selective encapsulation ... requires only one process step.”).

Plaintiffs suggest that some of barrier layer “408” in Fig. 4A “is removed after being ‘selectively deposited’” (Br. 5), pointing to Fig. 4B. However, nothing in the specification indicates such removal occurs; the specification only discloses that “unwanted organic layer 406 is removed.” Ex. 1 at 6:16-17. The only express reference to what happens to 408 is that it “might act as an effective etch stop,” meaning it could prevent a certain removal process for the organic layer. *Id.* at 6:31-32. Further, Fig. 4B does not depict Fig. 4A after a portion of 408 was removed because 4A shows 408 with a sloping

lower surface, while 4B merely shows 408 with a flat lower surface. A different shape of 408 does not imply that some of it was removed. *Hockerson-Halberstadt, Inc. v. Avia Group International, Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000) (“[P]atent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.”).

D. “depositing at least one planarization layer upon said mask and said plurality of devices; removing said mask from said substrate”

The claim language requires that the “said mask” be removed *after* the planarization layer is deposited “upon said mask”: if the mask were removed before that layer were deposited, the layer could not be deposited on that mask. Cl. 41. This understanding is supported by the specification. *See, e.g.*, 1:32-33; 6:66-7:3; 7:38-39; 7:54-60; 7:66-8:1; Schubert Decl. ¶¶ 67-73; *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1309 (Fed. Cir. 2014) (“[I]f grammar, logic, the specification, or the prosecution history require the steps to be performed sequentially, then the claims are so limited” (citation omitted)). Plaintiffs’ argument to the contrary is a non sequitur. Plaintiffs point to Fig. 1, which is labeled “PRIOR ART,” and which neither the patent nor Plaintiffs establish is an embodiment of claim 41. Further, Plaintiffs’ argument does not contradict Samsung’s proposed construction: Plaintiffs offer no potential scenario in which the “removing said mask” step occurs before the “depositing at least one planarization layer upon said mask ...” step. Br. 5-6.

II. ’547 PATENT TERMS

A. “an organic layer sequence which emits an electromagnetic radiation having a first wavelength spectrum during operation”

Organic layer sequence: Plaintiffs do not dispute that the “organic layer sequence” must comprise an active layer. Plaintiffs only dispute whether the “organic layer sequence” includes electrodes. *See* Br. 6-7. The ’547 patent and claims distinguish the “organic layer sequence” (part 1 in Figs. 1A and 1B) from the “structured layer” (part 2 in Figs. 1A and 1B) which include the wavelength conversion and filter layers. Ex. 2 at Abstract; Schubert Decl. ¶ 76. The “organic layer sequence 1 ... is embodied

as an OLED” and includes “**an electrode 10 and an active region 11.**” Ex. 2 at 10:5-12. The ’547 patent makes clear that the “organic layer sequence” includes the active region 11 and electrode 10. *Id.* at Figs. 1A and 1B. The ’547 patent defines the “organic layer structure” as an active layer and electrodes. *Edwards Lifescis. LLC v. Cook Inc.*, 582 F.3d 1322, 1334 (Fed. Cir. 2009) (“[T]he specification’s use of ‘i.e.’ signals an intent to define the word to which it refers, ‘malleable[.]’”); *Sinorgchem Co., Shandong v. Int’l Trade Comm’n*, 511 F.3d 1132, 1136 (Fed. Cir. 2007) (“the word ‘is’ ... may signify that a patentee is serving as its own lexicographer”). A POSITA would understand from the specification that “an organic layer sequence which emits an electromagnetic radiation” is “an active layer and electrodes which emits an electromagnetic radiation,” as electrodes are necessary to emit the electromagnetic radiation. Schubert Decl. ¶¶ 75-76. Plaintiffs assert that other embodiments of the ’547 patent include an electrode outside of the organic layer sequence. *See* Br. 6-7. That is wrong. These disclosures state that the electrodes can be applied “over the functional layers or over at least **one organic layer.**” Ex. 2 at 4:46-54. The “organic layer” is not the claimed “organic layer sequence”; the claimed “organic layer sequence” includes multiple layers—not just a single organic layer. There are no disclosures in the ’547 patent that require electrodes outside of the “organic layer sequence.” Even if such an embodiment existed, “[i]t is not necessary that each claim read on every embodiment.” *Baran v. Med. Device Technologies, Inc.*, 616 F.3d 1309, 1316 (Fed. Cir. 2010). Additionally, Pictiva does not dispute that the claimed “organic layer sequence” must be in contact with the electrodes. Therefore, even if the claimed “organic layer sequence” does not include the electrodes as Pictiva asserts, the organic layer sequence must still be in contact with the electrodes.

A first wavelength spectrum: Plaintiffs do not dispute that the “first wavelength spectrum” must encompass the wavelength composition and relative intensities and cannot be “an arbitrary portion of the emission spectrum of the organic layer sequence.” Br. 7. Therefore, there should be no dispute that “organic layer sequence ... emits an electromagnetic radiation having a first wavelength spectrum

during operation” means the organic layer sequence “emits an electromagnetic radiation with a first wavelength spectrum which corresponds to the entire wavelength spectrum of the electromagnetic radiation emitted by the organic layer sequence during operation.” However, Plaintiffs propose a confusing construction that fails to inform the jury what is meant by this wavelength spectrum. Plaintiffs’ construction would allow the emission of arbitrary portions of the emission spectrum to fall within the scope of the claim. A POSITA would understand that this term means “a first wavelength spectrum which corresponds to the entire wavelength spectrum of the electromagnetic radiation emitted by the organic layer sequence during operation.” Schubert Decl. ¶¶ 77-79.

B. “the filter layer is transparent to the electromagnetic radiation ...”

The sole dispute is whether “transparent” means to “pass through in as unimpeded manner as possible” or “substantially without alteration of its spectral components.” The claims require a “transparent” filter layer and a filter layer that “is at least partially opaque” to certain wavelength spectrums. “Transparent” and “at least partially opaque” must be separate and distinct so that there is no overlap between the two. However, Plaintiffs’ proposed construction of “transparent” renders the distinction between “transparent” and “at least partially opaque” meaningless, as “substantially without alteration” could be argued to mean “at least partially opaque.” Schubert Decl. ¶¶ 81-87. Such a construction is wrong as “[d]ifferent claim terms are presumed to have different meanings.” *Bd. of Regents of the Univ. of Tex. Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008). This is particularly important here, as, without this distinction, the claim terms would have no objective boundaries and render the claims indefinite. The ’547 patent defines “transparent” to mean “the electromagnetic radiation 15 having the first wavelength can pass through the filter layer 4 **in an unimpeded manner.**” Ex. 2 at 10:36-42. The ’547 patent explains, in the “Summary of Invention,” that “the filter layer is in this case transparent to electromagnetic radiation having the first wavelength spectrum” and, “[t]o put it another way, the filter layer is designed” so the “electromagnetic radiation

having the first wavelength spectrum can pass through the filter layer preferably in *as unimpeded a manner as possible*.” Ex. 2 at 3:52-62. This statement confirms “transparent” is defined as passing through in as unimpeded manner as possible. *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 864 (Fed. Cir. 2004) (holding “Summary of the Invention” describes the invention as a whole and supports a limiting definition). Plaintiffs wrongly assert that this passage is not directed to “transparent,” though it clearly states that it is defining “transparent.” *Id.*; Ex. 2 at 3:52-62. A POSITA would understand that “transparent” means “pass through in as unimpeded manner as possible” based on these disclosures. Schubert Decl. ¶¶ 81-87.

Plaintiffs are incorrect that “as unimpeded a manner as possible” adds an “intent” element to the claim. Br. 8. But Samsung’s proposed construction allows for the real-world implementation of a transparent filter that does not impede the wavelength as much as possible. *Paragon Sols., LLC v. Timex Corp.*, 566 F.3d 1075, 1089–90 (Fed. Cir. 2009) (finding that claim construction should not render claims inoperable or reject real-world implementations).

C. “a filter layer which is at least partially opaque to an electromagnetic ...”

The ’547 patent differentiates between a filter layer being “transparent” and “at least partially opaque,” as it defines “at least partially opaque” as not “transparent.” Samsung’s proposed construction is consistent with this distinction. Schubert Decl. ¶¶ 88-95. Plaintiffs’ proposed construction (“at least partially block an electromagnetic radiation”) would render the claim term meaningless, as there is no difference between Plaintiffs’ construction for this term and “transparent.” Such a construction must be rejected. *Pause Technology, LLC v. TiVo, Inc.*, 419 F.3d 1326, 1334 (Fed. Cir. 2005) (“By arguing that the ‘time interval’ can vary after the determination is made and the buffer begins receiving signals, Pause attaches no significance to the word ‘predetermine.’ In construing claims, however, we must give each claim term the respect that it is due.”).

D. Claim 11 of the ’547 Patent Is Indefinite

Claim 11 recites “an encapsulation **one of** disposed upstream **and** disposed downstream of the structure layer in the beam path of the electromagnetic radiation emitted by the organic layer sequence.” The claim requires an encapsulation that is **both** upstream **and** downstream, which is impossible. A POSITA would not understand the scope of this claim as written and there is no disclosure in the ’547 patent specification that indicates any objective boundaries of the claim. Schubert Decl. ¶¶ 96-99. Plaintiffs seek to redraft the claim to add “either” before “one of” or replace “and” with “or.” Br. 9-10. But “courts may not redraft claims, whether to make them operable or to sustain their validity.” *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1374 (Fed. Cir. 2004); *see also WSOU Invs. LLC v. Google LLC*, No. 2022-1066, 2023 WL 6210607, at *7 (Fed. Cir. Sept. 25, 2023) (nonsensical claim term “second part in between the first part and the second part” rendered claim indefinite and could not be redrafted to sustain validity). The claim as written is indefinite.

III. ’223 PATENT TERMS

A. “metal complex”

During prosecution, the applicant stated that all “metal complexes” that were “a compound composed of one or more metal atoms and one or more oxygen atoms” were excluded, in order to overcome a prior art rejection. Ex. 12 at 14 (“A person of ordinary skill in the art understands that **a metal oxide is a compound composed of one or more metal atoms and one or more oxygen atoms**. In direct contrast, Applicants assert that in the presently claimed application, the organic electronic layer is obtained by joint vaporization of **a metal complex**, which comprises a central metal atom, with an organic compound.”). Then in the Notice of Allowance, the examiner said the claims were allowed because the prior art lacked that “metal complex.” Ex. 13 at 2. This is a textbook prosecution history disclaimer. *ACCO Brands, Inc. v. Micro Sec. Devices, Inc.*, 346 F.3d 1075, 1078 (Fed. Cir. 2003) (“Statements made during prosecution which clearly disclaim a particular claim interpretation will limit the scope of the claims.”); *Kaken Pharm. Co. v. Iancu*, 952 F.3d 1346, 1352-53

(Fed. Cir. 2020) (“[T]he examiner’s statements explaining withdrawal of the rejection based on [the applicant’s] statements ... provides decisive support for limiting the claim phrase at issue”).

The disclaimer is both clear and unmistakable. The applicant used “in direct contrast” to emphasize the difference between the “metal complex” and the disclaimed compound. Schubert Decl. ¶ 103. The applicant described the scope of the disavowed material: “a metal oxide ***is*** a compound composed of one or more metal atoms and one or more oxygen atoms.” The prior art was excluded (and the patent allowed) because it had such a compound. Plaintiffs ***agree*** that a prosecution history disclaimer applies to “metal complex.” Br. 10-12 (Plaintiffs’ construction “***exclud[es] metal oxides***”).² The sole dispute is if the disclaimer is limited to “metal oxides.” It is not.

First, Plaintiffs try to rewrite what the applicant said. But “the scope of surrender is not limited to what is absolutely necessary to avoid a prior art reference; patentees may surrender more than necessary. When this happens, we hold patentees to the actual arguments made, not the arguments that could have been made.” *Tech. Props. Ltd. v. Huawei Techs. Co.*, 849 F.3d 1349, 1359 (Fed. Cir. 2017) (citations omitted). The applicant used deliberate language to distinguish the prior art, and the law requires that it must be held to that language.

Second, Plaintiffs’ citations to a purported plain and ordinary meaning of “metal oxide” (Br. 12) are unavailing. The applicant defined “metal oxide” by saying that it “***is*** a compound composed of one or more metal atoms and one or more oxygen atoms.” *Sinorgchem Co., Shandong v. Int’l Trade Comm’n*, 511 F.3d 1132, 1136 (Fed. Cir. 2007) (the word “is” is definitional). A definition may occur in the file history. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The applicant

² Plaintiffs cite to a textbook (Br. 10-11), but concede that its understanding of a metal complex (which does not exclude metal oxides) should not apply here because there is a disclaimer. *Compare* Br. 11 (“The treatise shows that a POSITA would understand that a metal complex simply refers to a compound composed of metal elements coordinated by ***any type*** of ligands.”), *with* Br. 12 (“Pictiva does not dispute that ‘metal complexes’ ***exclude metal oxides***”).

explained, using its chosen language, what the claimed “metal oxide” was, and that choice must be given effect, rather than treated as surplusage. *Altair Eng’g, Inc. v. LEDynamics, Inc.*, 413 F. App’x 251, 254-55 (Fed. Cir. 2011) (upholding a disclaimer that was based on the patentee’s description and explanation of what a particular term meant). A prosecution history disclaimer will control over a contrary plain and ordinary meaning. *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) (“[W]here the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender.”). And just as any “plain and ordinary meaning” of “metal complex” must account for the prosecution history disclaimer (which Plaintiffs admit via their proposed construction), so too must any purported “plain and ordinary meaning” of “metal oxide.”

Third, Plaintiffs’ citations to compound in the specification that supposedly contains oxygen, the “rhodium complex” mentioned at 2:28-39 (Br. 10), are misplaced. The specification itself does not describe that complex (or any other metal complex) as containing oxygen. *Id.* Plaintiffs rely instead on two pieces of extrinsic evidence, neither of which it included in its P.R. 4-3 disclosure. *Compare* Br. 10, *with* Dkt. 108-1 at 60-61. Regardless, even if an oxygen-containing rhodium complex was referred to in the specification, the applicant selected the non-oxygen-bearing embodiments (*e.g.*, 3:20-49; 12:39-51; 14:23-36) by its prosecution history disclaimer.

Fourth, Plaintiffs are wrong that “composed of” means “consisting of” (*i.e.*, prohibiting additional ingredients).³ Plaintiffs cite to *AFG Indus., Inc v. Cardinal IG Co.*, 239 F.3d 1239, 1245 (Fed. Cir. 2001). Br. 11. ***But that case held the opposite.*** *AFG Indus.*, 239 F.3d at 1245 (“[T]he term ‘composed of’ in this case ***is not completely closed***... [It] should be interpreted in the same manner as ‘***consisting essentially of***.’”); *id.* (“***The phrase is open to ‘unlisted ingredients*** that do not

³ The Court does not need to reach this dispute because Samsung’s proposed construction uses “composed of” and does not require “composed of” to be subject to further claim construction.

materially affect the basic and novel properties of the invention.” (citation omitted)). Later cases agree “composed of” is an “open” term allowing more ingredients. *Advanced Electrolyte Techs. LLC v. Samsung SDI Co.*, No. A:17-CV-0030-LY, 2018 WL 2770648, at *5 (W.D. Tex. June 8, 2018) (rejecting a proposed construction of “composed of” as “consisting of” and finding that “‘composed of’ should be considered an open term”); *Teva Pharms. USA, Inc. v. Sandoz Inc.*, 810 F. Supp. 2d 578, 585 (S.D.N.Y. 2011) (“[T]he Court construes ‘composed of’ ... to mean ‘consisting essentially of.’”); *Board of Regents, The Univ. of Texas Sys. V. Ethicon, Inc.*, No. 1-17-CV-1084-LY, 2018 WL 6313295, at *3-*4 (W.D. Tex. Nov. 30, 2018) (“[T]he court concludes that ‘composed of’ is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention.” (quotation omitted)).

The invention’s nature compels an open interpretation of “composed of.” Metal complexes achieve the benefits of the invention because *their metals* “have the ability to coordinate with additional ligands” and “have a high disposition and ability to provide ‘free’ electrons.” Ex. 3 at 3:6-13. The disclaimer does not distinguish complexes that only contain a metal and an oxygen atom from those that also contain additional atoms. So other atoms would not “affect the basic and novel properties of the invention,” and are included within the disclaimed material per *AFG*.

B. “wherein the organic compound coordinates to the metal complex due to the joint vaporization”

Plaintiffs’ construction reads “due to” out of the claim by allowing the joint vaporization to only “indirectly” lead to coordination, which is not what “due to” means (and which is ambiguous at best). Plaintiffs’ construction inverts causality by not requiring the coordination to occur “after” the joint vaporization. If coordination occurs before the joint vaporization, it cannot be “due to” the vaporization. Thus, Plaintiffs’ construction is not the plain and ordinary meaning of the phrase. Samsung’s construction captures the requirements of the claim language. Schubert Decl. ¶¶ 105-07. Alternatively, Samsung can accept a compromise construction of “wherein the organic compound coordinates to the metal complex attributable directly to the joint vaporization.”

C. “coordinate[s]”

Plaintiffs do not dispute that a “dative bond” is a well-known term to a POSITA, and that it means “a chemical bond between two atoms in which a shared pair of electrons forms the bond and the pair has been supplied by one of the two atoms.” Ex. 14 (next sentence: “Also known as coordinate bond; dative bond.”); Schubert Decl. ¶¶ 108-14; Br. 13-14.⁴

The specification agrees, noting a pair of electrons are shared in coordination via overlap of the electron orbitals. Ex. 3 at 2:6-12 (“[T]he *coordination* of the organic compound on the metal complexes” is “associated” with “*overlap of the orbitals*”); 3:65-67 (“Here, N is a preferred heteratom. *Due to the mostly free electron pair*, N has very good coordination properties with respect to metal complexes.”); 3:7-20 (similar). This type of bond is necessary to achieve the advantages of the invention. *Id.* at 2:13-16 (“[T]he electron conductivity in the component is significantly improved.”). Thus, the specification treats “coordination” as a specific type of chemical bond where two electrons are donated. And “coordinate[s]” has the same meaning in chemistry. *E.g.*, Ex. 15 (“coordinate” means “Chemistry denoting a type of covalent bond in which one atom provides both the shared electrons.”); Ex. 16 (“coordinate bond” means “(dative bond). A covalent bond consisting of a pair of electrons donated by only one of the two atoms it joins.”); Ex. 17 (“A dative covalent bond (also known as a coordinate covalent bond) is a description of covalent bonding between two atoms in which both electrons shared in the bond come from the same atom.”).

██

██

██

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⁴ Thus, there is no confusion about the scope of Samsung’s construction. If necessary, Samsung would agree to construe “coordinate[s]” according to this definition of “dative.”

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Plaintiffs incorrectly assume that there is some broader plain and ordinary meaning of “coordinate[s]” in the relevant field. Br. 13-14. But Plaintiffs present *no evidence* that “coordinate[s]” means any type of “bonding interaction” per its construction. Plaintiffs cite to the ’223 patent at 19:24-26, 26:4-6, and 26:14-16 (Br. 13-14), but these are simply locations where “coordinate[s]” is claimed. They do not support Plaintiffs’ construction. Plaintiffs say there is no “disclaimer in the specification or the prosecution history” (Br. 14), but no disclaimer is needed because Samsung’s construction is the plain and ordinary meaning as confirmed by the specification and relevant extrinsic evidence. Plaintiffs critique Samsung for citing extrinsic evidence (*id.*), but the extrinsic evidence is in accord with the intrinsic evidence. Plaintiffs cite to four extrinsic sources (*id.*) but none 1) defines “coordinate[s]”; 2) contradicts Samsung’s cited intrinsic or extrinsic evidence; or 3) supports Plaintiffs’ construction. Further, the invention does not work with non-dative “bonding interactions.” Schubert Decl. ¶ 114 (“[A]llowing additional types of non-dative ‘bonding interactions’ would not achieve the goals of the invention and would not make technical sense.”).

D. “chain-like structure” / “network-like structure”

Plaintiffs contend, without evidence, that there is a broad plain meaning of these terms and that “‘chain-like’ could include other types of linear sequences, such as where two metal complexes ... are bridged by two organic compounds.” Br. 14-16. But there is no well-understood or

plain meaning for either term in the context of the relevant field. Schubert Decl. ¶¶ 115-20. Thus, the intrinsic record is the primary guidance for these terms. *Goldenberg v. Cytogen, Inc.*, 373 F.3d 1158, 1164 (Fed. Cir. 2004) (“Where a claim term has no ordinary and customary meaning, a court must resort to the remaining intrinsic evidence ... to obtain the meaning of that term.”).

The specification defines both terms, using Samsung’s construction. Ex. 3 at 2:33-38 (“a chain formation, wherein two metal complexes are linked by an organic compound”); 7:48-53 (“[T]hey also allow for the formation of three-dimensional networks. In this case, an organic compound coordinates to more than two metal complexes.”); 11:11-16; 2:42-67; 11:48-52; cl. 8. Thus, Plaintiffs’ contention that “[t]he patent does not impose a specific way by which the 2D and 3D structures are formed” (Br. 15) is wrong. Plaintiffs assert that chains and networks are “not mutually exclusive,” (Br. 16), but the cited material does not indicate that a chain can be a network, instead indicating that coordination may result in (separate) instances of chains as well as instances of networks. 11:48-52. Plaintiffs contend that “Samsung’s proposal also excludes embodiments disclosed in the specification” such as “parts of the organic compound.” Br. 15. Those are not excluded. “Linked by an organic compound” does not require every atom in the organic compound to be joined to a metal complex. Samsung’s constructions allow a metal complex to bridge organic compounds or vice-versa, and thus encompass every type of chain or network described in the specification. By contrast, Plaintiffs present no affirmative arguments for their constructions, nor do they explain their references to “resemble a chain” or “resemble a network.”

E. “degree of cross-linking of the electron-conducting layer”

This term is indefinite. *Nautilus v. Biosig Inst., Inc.*, 572 U.S. 898, 901 (2014). First, there is no antecedent basis for “cross-linking in the electron-conducting layer,” as no parent claim mentions any such cross-linking, and thus is it unclear what is being cross-linked. *Smith v. Orbcomm, Inc.*, No. 2:14-CV-666-JRG, 2015 WL 5302815 (E.D. Tex. Sept. 10, 2015) (no antecedent basis made term’s meaning

unclear). Plaintiffs contend that cross-linking refers to “formation of network-like or chain-like structures” and that those structures “inherently [have] a degree of cross-linking,” Br. 16, but it is still unclear what aspect of those structures is a “cross-link” or how it would be measured.

Second, the term “cross-linking” only has a plain and ordinary meaning in the context of polymers, rather than the small molecules that are the subject of the ’223 patent. The types of “cross-linking” in polymers are not applicable to the invention. Ex. 19 (“cross linkage”: “A short side chain of atoms linking two longer chains in a polymeric material.”). Schubert Decl. ¶¶ 124-25 (“[A] POSITA would not be able to identify any parallel ‘cross-link’ structure in the small molecules that are covered by the ’223 patent.”). Plaintiffs cite a source that mentions a “coordination copolymer.” Br. 17. But that that is not a reference to cross-linking.

Third, “degree” is itself a term of degree, and the ’223 patent provides no guidance for how to measure the degree of cross-linking. There are at least five ways it could be measured, even if it had some relationship to chains or networks. Schubert Decl. ¶ 123. Plaintiffs assert that “[t]he claim is infringed if the ratio of the metal complex to the organic compound during vaporization influences cross-linking,” Br. 17, but that simply swaps “degree” for “influences” and proposes no way to identify or measure a “cross-linking.”

IV. ’164 PATENT TERMS

A. “matrix”

The claims require an “organic functional layer” which contains three matrix materials. *E.g.*, Cl. 1 (“wherein the at least one organic functional layer has at least a first matrix material, a second matrix material, and a third matrix material.”). The three materials are “matrix” materials because together they form a matrix in the “organic functional layer.” *Id.* at 4:24-26 (“Each of these layers can have a matrix, which has at least a first, a second, and a third matrix material.”).

The specification unambiguously describes the matrix as a mixture of the three matrix

materials. Ex. 4 at 3:20-21 (“Thus, the concentration of **a matrix material in the mixture of several matrix materials** plays a role.”); 3:31-33 (“the mobility of electrons and holes in **the matrix, which has at least three matrix materials**”); 8:52-55 (“the **compilation** of the first, second, and third matrix material for the matrix”); 5:1-2 (“the **combination** of three matrix materials”). The three materials must be mixed to electrically interact so that their comparative HOMO and LUMO values impact the transport of holes and electrons. *Id.* at 3:21-27. Plaintiffs simply ignore these aspects of the specification. *See generally* Br. 17-20.

It is well-understood that in the relevant fields, a “matrix” forms a continuous phase of materials. Schubert Decl. ¶¶ 130-31; Ex. 20 (“matrix” means “(in chemistry) A continuous solid phase in which particles (atoms, ions, etc.) are embedded.”); Ex. 21 (“matrix” means “More or less continuous matter in which something is embedded”). Plaintiffs do not dispute this aspect of Samsung’s construction, as they have included the “continuous phase” language in their new proposed construction of “matrix material,” and do not contest Samsung’s cited dictionary definitions.

Plaintiffs argue instead that “matrix” should not be construed because “it is not a claim term.” Br. 19. This is not true. “Matrix” occurs as part of “first/second/third matrix material.” Terms need not be construed in isolation. *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 791-92 (Fed. Cir. 2021) (“[O]ur inquiry is not limited to an analysis of the phrase in isolation.”). Courts may even construe terms that do not occur in the claims. *Advanced Fiber Techs. (AFT) Trust v. J & L Fiber Servs., Inc.*, 674 F.3d 1365, 1373 (Fed. Cir. 2012). In its IPR briefing, Pictiva argued that “‘matrix materials’ refers to materials for forming one or more matrices,” Ex. 22 at 11, which raises the question of what those matrices are. Plaintiffs contend that Dr. Schubert said an “organic functional layer” can “include more than one functional layer.” Br. 17. Not so. That is not about “matrix,” and Dr. Schubert said **a device** can comprise multiple layers. Br. Ex. 7 at 106:11-14. Plaintiffs contend that outside the patent, a matrix may be a single material. Br. 19-20. But the patent specifies three matrix materials and rests its alleged

invention upon their use together in a matrix. Last, Plaintiffs complain that they are not sure whether some materials in a prior art reference they showed to Dr. Schubert for the first time at his deposition are in a “continuous phase.” Br. 20. Yet Plaintiffs have proposed “continuous phase” as part of their construction of “matrix material” and presumably must know what it means.

B. “matrix material”⁵

The three matrix materials must be different. First, these are well-understood ordinal terms. *The Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1373 (Fed. Cir. 2005) (“The terms ‘first, second, and third’ are terms to distinguish **different elements of the claim** [T]hese ordinal terms designate **different** blades within the ‘unit’”). Second, the claims specify different HOMO and LUMO values for each material. *E.g.*, cl. 1. Plaintiffs argue that this weighs **against** Samsung’s construction because “the claims just require there to be three **distinct** materials meeting certain requirements on their relative HOMOs and LUMOs and/or carrier mobilities.” Br. 19. Plaintiffs thus concede that the materials must be “distinct,” *i.e.*, “different.” And constructions may clarify implicit aspects of the claims; indeed, this is a primary purpose of claim construction. Third, the specification says the three matrix materials are different. Ex. 4 at 1:55-59 (“Thus, an electronic device is made available which comprises more than two **different** matrix materials in an organic functional layer. Three **different** matrix materials can be present thereby, and depending on the need, more than three also.”). Fourth, the basic principle of the invention requires that the matrix materials be different in order to achieve the purported improvements in electrical efficiency, and therefore a POSITA would have understood

⁵ Pictiva changed its construction of “matrix material” in its opening brief to add “a material that forms a continuous phase.” Dkt. 108-1 at 95. Samsung agrees that the mixture of the three matrix materials together must form a continuous phase (*i.e.*, as the matrix), and that each individual matrix material is part of that continuous phase. However, Pictiva’s new construction is faulty because it implies that a single one of the claimed matrix materials may form a matrix by itself. This is incorrect for the reasons stated above. It also contradicts Pictiva’s IPR expert, who said “a matrix material would be **part of** the continuous phase in a given organic layer.” Ex. 23 ¶ 37.

the three claimed matrix materials to be different. Ex. 4 at 8:52-55 (“The relative ratio of the LUMOs and HOMOs of the three combined materials and their position to one another is important in the compilation of the first, second, and third matrix material for the matrix.”); *see also id.* 1:33-36; 2:32-36; 2:50-52; 3:21-26; Schubert Decl. ¶¶ 132-37.

The three matrix materials must be part of the same matrix. First, this is required by the claim language. Cl. 1 (“the at least one functional layer has at least a first matrix material, a second matrix material, and a third matrix material.”). Second, it is explicitly stated in the specification. Ex. 4 at 2:46-47 (“the matrix, which is composed of the three matrix materials”); 3:32-33 (“the matrix, which has at least three matrix materials”); 6:55-56 (“matrices which are composed of three or more matrix materials”). Third, the operating principle of the invention requires the matrix materials to all interact together in the same matrix. *E.g., id.* at 4:59-63 (“Between the various molecules of the matrix materials, excited states (excimers) are formed which can transfer their excitation energy by energy transfer to the emitter molecules.”); Schubert Decl. ¶ 137 (“[A] POSITA would have recognized that the invention does not make technical sense unless the three matrix materials are present in the same matrix such that they may electrically interact.”).

Plaintiffs argue that “because the claims admittedly encompass situations where the three matrix materials are distributed over several organic functional layers, each a matrix, the Court should reject Samsung’s construction that restricts the three matrix materials to be of the same matrix.” Br. 18. Plaintiffs’ interpretation directly contradicts the specification and the claims. Ex. 4 at 4:24-26 (“Each of these layers can have a matrix, which has at least a first, a second, and a third matrix material.”). It makes no sense in the context of the invention, which derives its purported advantages from the close interaction of the three matrix materials within an organic functional layer’s matrix. There is no disclosed embodiment where an organic functional layer comprises less than three different matrix materials, nor is there any where a matrix spans multiple organic functional layers.

Plaintiffs’ argument contradicts its IPR expert: “a person of ordinary skill in the art would understand that [the second and third matrix materials] *exist in sufficient quantities in the organic functional layer* (such as in the emission layer) so the charge carriers can be sufficiently close to one another to facilitate charge transport.” Ex. 23 ¶ 32.

The incoherence of Plaintiffs’ position is highlighted by its argument that an “organic functional layer” can contain subsidiary *other* “organic functional layers” (which presumably each could contain more such layers *ad infinitum*). Br. 18. “Organic functional layer” was not proposed for construction, and Plaintiffs’ arguments relate to how to interpret it, not “matrix material.” Plaintiffs’ interpretation has no support in the claims or specification. Plaintiffs contend that Samsung’s position somehow relies on the element of claim 1 “wherein the organic functional layer is an emission layer.” *Id.* (citing to Dr. Schubert’s deposition but no other sources). Not so—see above arguments, which do not rely on that element at all. Plaintiffs also assert that Dr. Schubert said that “claim 1 includes situations where ‘the at least one organic functional layer’ corresponds to multiple emission layers.” *Id.* But all he said, as shown in the deposition portion that Plaintiffs excerpted, is that a device can contain multiple emission layers.

C. “charge carrier mobility”

This term is indefinite because it is used in the claims as an immutable characteristic of a class of material (*i.e.*, independent of position and context), but in actuality depends on the location of a sample (an instance of a material from a particular place), as well as nearby materials. For example, claim 4 reads “the first matrix *material* has a charge carrier mobility which is lower than the charge carrier mobilities of the second and third matrix *material*.” Cl. 4. But mobility varies according to temperature, humidity, dopants, the HOMO/LUMO of surroundings, and other factors, some noted in the patent. Schubert Decl. ¶¶ 138-47; 3:17-21. The mobility of a material cannot be compared to another material in the abstract. Thus, the claims are “nonsensical in the way a claim to extracting

orange juice from apples would be, and are thus indefinite.” *Trustees of Columbia Univ. in the City of New York v. Symantec Corp.*, 811 F.3d 1359, 1367 (Fed. Cir. 2016).

Plaintiffs argue a formula in the specification shows “there were known methods for measuring the charge carrier mobility.” Br. 21. But these methods would only measure mobility for a **sample**, not a **material**, as specified by the claims. Ex. 4 at 3:35-52 (“a localized state” and “between place i and j”); Schubert Decl. ¶¶ 144-45. Plaintiffs assert “the claims do not require absolute charge carrier mobility” and that materials should be “compared under the same or substantially the same conditions.” Br. 21-22. But the variance in mobility per sample prevents a comparative measurement, and the patents (including formulas) provide no guidance on what the “same conditions” would be. Plaintiffs’ cases discuss different viable measurements, not the inapplicability of sample-based measurements to the abstract material properties specified by the claims.

D. “A method for the production of an electronic device according to claim 1, comprising the steps of:”⁶

Claim 13 is invalid for improperly mixing system and method classes of claims. *IPXL Holdings, L.L.C v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005) (“Because claim 25 recites both a system and the method for using that system, it does not apprise a person of ordinary skill in the art of its scope, and it is invalid under section 112, paragraph 2.”). Because of the mixed claim types, a POSITA would not be able to determine when claim 13 is practiced. Schubert Decl. ¶¶ 149-50. If claim 13 is not invalid, the Court should clarify that it is a product-by-process claim. Plaintiffs reference MPEP § 2173.05(f), but the examples there were all product-by-process claims. Br. 22.

V. ‘492 PATENT TERMS

A. “applied in a structured fashion” / “applying ... in a structured fashion”

⁶ Plaintiffs again changed their claim construction in briefing to add a construction of “properties according to” that it had not previously advanced. Dkt. 108-1 at 112.

The patent defines “applied in a structured fashion,” and that definition excludes application in a “photolithographic method.” *See Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1380 (Fed. Cir. 2009) (“When a patentee explicitly defines a claim term in the patent specification, the patentee’s definition controls.”). The patent defines the term as follows:

The fact that the dielectric and/or the electrode layer and/or subsequently further layers or materials are ‘applied in a structured fashion’ means, in various embodiments, that the desired structure is already formed during the application of the corresponding layer. The area to be coated is thus coated only in partial regions dependent on the desired structure. [¶] This is in contrast to planar application of the corresponding layers and subsequent structuring of the layers, as is the case for example in a photolithographic method.

Ex. 5 at 1:65-2:14. This Court should adopt the definition set forth by the patentee.

Plaintiffs elide the definition to focus on other patent language, but read in context, the language cited by Plaintiffs supports application of the patent’s definition. *See* Br. 23; 2:5-14. Immediately after the definition, the patent states that “structured application ... makes it possible” to “dispense with ... the photolithographic method.” *Id.* The patent thus explains that the defined “structured fashion” approach improves on the photolithographic methods criticized by the patent. *See* Ex. 5 at 1:27-29. By describing how “applied in a structured fashion” improves on photolithography, the patent makes clear that the defined method is **not** photolithography. Plaintiffs wrongly contend that, by describing what the “applied in a structured fashion” approach “makes possible,” the patent’s language refers to a mere “[p]ossible benefit[.]” Br. 23. Plaintiffs are incorrect: the patent’s definition governs, and it is not somehow negated by a subsequent explanation of its utility. Ex. 5 at 2:5-12.

B. “optoelectronic component” / “passive electronic component”

The claims separately require a “passive electronic component” and an “optoelectronic component”⁷ (*e.g.* cls. 10, 13, 14), and the patent recognizes that the two types of components are

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distinct from one another (and the claims depend on this distinction). *E.g.*, cls. 10, 13, 14; 2:20-21; 4:35-41; 4:46-63; 6:23-31; 8:29-31; 8:31-48; 15:9-12; 20:5-15; Schubert Decl. ¶¶ 154-67. Plaintiffs seek to evade the distinction between the terms by asserting that a passive electronic component can be an optoelectronic component and vice versa. Br. 26. *Cf. Applied Med.*, 448 F.3d at 1333 n. 3 (Fed. Cir. 2006) (“[I]n the absence of any evidence to the contrary, we must presume that the use of ... different terms in the claims connotes different meanings.”) (citation omitted). Plaintiffs even allege that the same structure is both a “passive electronic component” and an “optoelectronic component.” *See* March Infring. Cont. Ex. E 53-56 (regarding optoelectronic component), 31-35 (same figures for passive electronic component), 42-44 (same). The patent does not provide any examples or description of the overlap of these terms proposed by Plaintiffs, nor does it provide any reasonable certainty about the scope of the terms understood this way. Plaintiffs’ construction would thus render the patent indefinite and invalid for lack of written description.

Plaintiffs incorrectly contend that the preamble term “passive electronic component” in claims 1 and 16 is not limiting. Br. 25; *see* cls 1, 16. Claim 1 is a method claim and claim 16 contains method steps. For both claims, the purpose of the steps is to make a passive electronic component; this purpose is the essence of the claim and thus the preambles give life and meaning to the claims and recite an essential step or structure. *See Eli Lilly & Co. v. Teva Pharms. Int’l GmbH*, 8 F.4th 1331, 1341 (Fed. Cir. 2021) (“[W]hat a method does is usually recited in its preamble. Accordingly, our claim construction analysis of statements of intended purpose in methods of using apparatuses or compositions has tended to result in a conclusion that such preamble language is limiting.”); *Vizio, Inc. v. Int’l Trade Comm’n*, 605 F.3d 1330, 1340 (Fed. Cir. 2010) (Preamble language limiting where it “is the

[REDACTED]

essence or a fundamental characteristic of the claimed invention” because “a preamble limits the invention if it recites essential structure or steps, or if it is ‘necessary to give life, meaning, and vitality’ to the claim” (citation omitted)). Plaintiffs’ implication that claims 1 and 16 can cover an active electronic component, or structures that are not electronic components at all, should be rejected, as this approach would strip the claims of their plain meaning within the context of the patent.⁸

C. “plurality of capacitors and/or resistors”

Claim 6 is indefinite because it refers to methods in claim 2 for forming “capacitors and/or resistors,” but claim 2 discloses no method for forming any resistor. *Nautilus*, 572 U.S. at 901. Claim 6 should be understood in the context of the other claims. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314-15 (Fed. Cir. 2005) (“Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.... Differences among claims can also be a useful guide in understanding the meaning of particular claim terms....”). Claim 2 relates to the formation of a capacitor; claims 4-5 relate to the formation of a resistor. During prosecution, claim 6 formerly depended on “any of the preceding claims,” (Ex. 25 at 5), at that time, claim 6 depended from claims about forming “capacitors [claim 2] and/or resistors [claims 3-5].” However, the applicants amended the patent so claim 6 now depends solely on claim 2. *Id.* at 10. This amendment rendered claim 6 indefinite because the post-amendment claim requires certain methods for forming resistors, without saying what those methods are. Because the claims on which claim 6 depends do not describe how a resistor is to be formed, claim 6 fails to inform a POSITA, with reasonable certainty, of the scope of the invention. Schubert Decl. ¶¶ 168-69.

In response, Plaintiffs assert that page 6 of an IPR petition indicates that claim 1 can produce a resistor. Br. 26. This is false; the page does not suggest claim 1 includes producing resistors. Pls’ Ex.

⁸ Contrary to Plaintiffs’ suggestion, Dr. Schubert testified that the preamble of claim 1 is limiting because “the preamble excludes optoelectronic components.” Pls. Ex. 7 166:4-11.

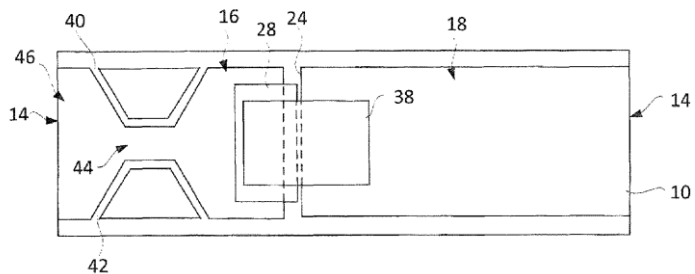
27 at 6. Plaintiffs fail to explain how claim 6 can apprise a POSITA, with reasonable certainty, of the scope of the invention; their suggestion that claims 1-2 may “includ[e] an unrecited step of making a resistor” would improperly insert language from one claim into a different claim.

D. “a resistance region ... which has a taper in a direction parallel to the electrically conductive layers”

Claim 3 requires: “a second trench and at least one third trench are formed, which delimit a resistance region, which comprises a part of the first and second electrically conductive layers and **which has a taper in a direction parallel to the electrically conductive layers.**” See Fig. 9; 12:60-61 (“a resistance region 44, for example, which has a taper”). Claim 1 (from which claim 3 depends) includes (1) two electrically conductive

Fig. 9

layers (“14” in Fig. 9 and the layer below it) and (2) a first trench (“24”) in them. Thus, claim 3 requires that a “second trench” (labeled “40” in Fig. 9) and “third



trench” (“42”) “delimit a resistance region” (in the two disclosed electrically conductive layers), “which has a taper in a direction parallel to the electrically conductive layers.” Cl. 3.

Pictiva essentially contends that this limitation should be disregarded because any taper direction would do, so long as it is parallel to the electrically conductive layers. Br. 27. But all possible taper directions would satisfy this requirement. A claim limitation that is always satisfied is not a limitation at all; it is mere superfluity. To use Figure 9 as an example, Pictiva contends that the taper next to the resistance region (44) could be rotated 45°, 90°, or any other amount, and still be “parallel to the electrically conductive layers.” Because every possible taper direction would be parallel to the electrically conductive layers—because the taper is made of those layers—Pictiva’s proposed construction would impermissibly render this claim limitation superfluous and nugatory. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (“Allowing a patentee to argue that physical

structures and characteristics specifically described in a claim are merely superfluous would render the scope of the patent ambiguous....”); *see* Schubert Decl. ¶¶ 175-78; *see also* cl. 1, 13:1-14; Figure 10.

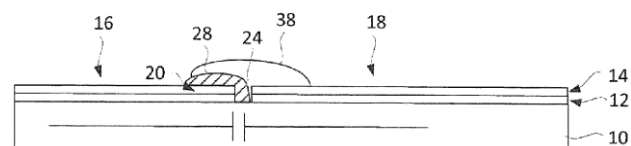
E. “second trench” / “third trench”

The “second trench” and “third trench” must be formed in either (or both) of the previously-recited layers (the first and second electrically conductive layers) because those are the only materials recited in the claim in which such trenches could be formed and because this construction provides the only basis for a POSITA to understand the claim language. *See* cls. 1, 3; Schubert Decl. ¶¶ 182-86. Plaintiffs contend, without pointing to any step or structure in the claims (or anywhere else), that these trenches could be formed via “unrecited steps.” Br. 27. The intrinsic record provides no hint as to where else the trenches could be formed, nor does Plaintiffs’ briefing. Thus, Plaintiffs’ construction is improper because it would render the claim invalid for lack of written description and indefiniteness, and such a construction is disfavored. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (“[T]he test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.”); *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999). *See also* cl. 1; 11:40-44; Fig. 4; Fig. 9.

F. “applying an electrically conductive electrode layer in a structured fashion to the dielectric above the first contact region and to the second contact region” / “an electrically conductive electrode layer, which is applied in a structured fashion to the dielectric above the first contact region and to the second contact region” / “an electrically conductive electrode layer, which is applied in a structured fashion on the dielectric above the first contact region and at least partly on the second contact region”

The claims require “applying” an electrode layer, in a structured fashion, “*to the dielectric above the first contact region*” and “*to the second contact region.*” Cls. 1, 10; *see* cl. 16 (similar). Thus, the electrode must be applied in distinct ways with respect to the first contact region

Fig. 7



and the second contact region. Because the electrode layer is applied *to* the second contact region, the electrode layer is in electrical contact with the second contact region. *See* Fig. 7 (electrode layer “38” touching second contact region 18 (12:27-42)). Because the electrode layer is applied “to the dielectric above” the first contact region in a structured fashion, and because the dielectric itself is (by definition) an insulator, the dielectric physically separates, and thus insulates, the electrode layer from the first contact region. *See, e.g.*, cls. 1, 10, 16; Fig. 7 (electrode layer “38” applied to dielectric “28,” above first contact region “16”); 12:27-42. Thus, under the language of claims 1, 10, and 16, read in light of the patent, the electrode layer is in electrical contact with the second contact region but it is insulated from the first contact region.

A POSITA would understand the claims this way because applying the electrode layer in a structured fashion “to the dielectric above” the first contact region would effectuate the claims (including that the “dielectric electrically insulates” (cls. 1, 10, 16)) only if the electrode layer remains insulated from the first contact region; Plaintiffs’ construction is improper because it would render the claims inoperable. *See* Schubert Decl. ¶¶ 188, 191-94; *ALA Eng’g Ltd. v. Magotteaux Int’l S/A*, 657 F.3d 1264, 1278 (Fed. Cir. 2011) (“[A] construction that renders the claimed invention inoperable should be viewed with extreme skepticism.” (citation omitted)).

Plaintiffs seek to improperly evade the distinction between applying “to” and applying “to the dielectric above.” *Applied Med.*, 448 F.3d at 1333 n. 3 (Fed. Cir. 2006) (“[I]n the absence of any evidence to the contrary, we must presume that the use of ... different terms in the claims connotes different meanings.”) (citation omitted). Plaintiffs would interpret “applying an electrically conductive electrode layer in a structured fashion to the dielectric above the first contact region” to include an electrode layer that is in electrical contact with the first contact region. Br. 27-28. But that construction would eviscerate the distinction between the two modes of application: applying “to” puts the electrode layer in electrical contact with the contact region; applying “to the dielectric above” does not. *See, e.g.*, cls.

1, 10, 16; Fig. 7; 1:58-65; 2:3-4; 3:38-47; 6:60-7:1; 11:47-56; 12:29-36; Schubert Decl. ¶¶ 188, 191-94.

VI. '425 PATENT TERMS

A. **“the organic layer sequence comprises at least one radiation-emitting region configured to generate electromagnetic radiation in a spectral range from infrared radiation to UV radiation during operation”**

The sole dispute between the parties is whether “generate electromagnetic radiation in a spectral range from infrared radiation to UV radiation during operation” means the full spectrum from infrared radiation to UV radiation or only one wavelength within this range. The claim language is clear that the electromagnetic radiation that is generated is the full spectral range of infrared radiation to UV radiation. The claim does not state that the range is “between” infrared and UV radiation or that it could be “any wavelength” in the range. Instead, the plain language of the claim makes clear the electromagnetic radiation that is generated is the full spectral range of infrared radiation to UV radiation. Schubert Decl. ¶¶ 195-200. This is further confirmed by the dependent claims, which require a “first spectral subrange of the generated electromagnetic radiation.” Ex. 6 at claim 6. As claim 6 requires a “spectral subrange of the generated electromagnetic radiation,” a POSITA would understand “generate electromagnetic radiation in a spectral range from infrared radiation to UV radiation during operation” means the full spectrum from infrared radiation to UV radiation is emitted during operation. *E.g., Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1362 (Fed. Cir. 2008) (rejecting a construction that would “render several dependent claims meaningless”). If, as Plaintiffs assert, this claim term merely requires emitting any wavelength within the range from infrared to UV radiation, the claim limitation would be meaningless as infrared to UV radiation is the full spectrum of possible emission wavelengths of an OLED. Schubert Decl. ¶¶ 195-200; *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (reading limitations out of a claim would “be contrary to the principle that claim language should not be treated as meaningless”).

Contrary to Plaintiffs’ assertion, the ’425 patent does not support Plaintiffs’ construction. Br.

29-30. The '425 patent is directed to light devices for broad use that would need broad spectral ranges that include the entire range from infrared radiation to UV radiation during operation. For example, the '425 patent "Summary of Invention" states that the invention is directed to "luminaires [that] can be, for example, luminaires which are used as an alarm clock, which form part of a shower cubicle, which form part of a shower head, which serve as solar protection, which serve as rain protection, which are provided for general lighting which can be used in mobile fashion and/or which inherently combine a plurality of these functions." Ex. 6 at 1:43-49; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 864 (Fed. Cir. 2004) (holding "Summary of the Invention" describes the invention as a whole and supports a limiting definition). While the '425 patent provides some applications where the emitted wavelength may be blue or green, these are not the claimed embodiment. The '425 patent specification discloses the claimed embodiment as one that, "[d]uring the operation of the organic light-emitting diode 1, electromagnetic radiation is generated in the radiation-emitting region. Therefore, the emission 108 of electromagnetic radiation occurs in the radiation-emitting region. ***Preferably, electromagnetic radiation in the spectral range of infrared radiation to UV radiation is generated in this case.***" Ex. 6 at 24:46-54. The language for this embodiment and the claim are both clear that the electromagnetic radiation that is generated is the full spectral range of infrared radiation to UV radiation. Schubert Decl. ¶¶ 195-200

Dated: January 7, 2025

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CERTIFICATE OF SERVICE

Pursuant to the Federal Rules of Civil Procedure and Local Rule CV-5, I hereby certify that, on January 7, 2025, all counsel of record who have appeared in this case are being served with a copy of the foregoing via the Court's CM/ECF system.

Dated: January 7, 2025

/s/ Melissa R. Smith

Melissa R. Smith

CERTIFICATE OF AUTHORIZATION TO [REDACTED]

I hereby certify that the foregoing document is being [REDACTED] pursuant to the Protective Order entered in this matter.

Dated: January 7, 2025

/s/ Melissa R. Smith

Melissa R. Smith