

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES - GENERAL

Case No. CV 23-3478-GW-PDx Date May 8, 2024
Title *Polaris PowerLED Technologies, LLC v. VIZIO, Inc., et al.*

Present: The Honorable GEORGE H. WU, UNITED STATES DISTRICT JUDGE

Javier Gonzalez

None Present

Deputy Clerk

Court Reporter / Recorder

Tape No.

Attorneys Present for Plaintiffs:

Attorneys Present for Defendants:

None Present

None Present

**PROCEEDINGS: IN CHAMBERS - FINAL RULINGS ON *MARKMAN*/CLAIM
CONSTRUCTION**

Attached hereto is the Court's Final Rulings on *Markman*/Claim Construction.

Initials of Preparer JG

I. INTRODUCTION

Plaintiffs Polaris PowerLED Technologies, LLC (“Polaris”) brought this action against VIZIO, Inc.; Hon Hai Precision Industry Co., Ltd. D/B/A/ FoxConn Technology Group; Competition Team Technology USA Inc.; Top Victory Electronics (Taiwan) Co., Ltd.; Top Victory Investments Ltd.; TPV Technology Ltd.; TPV International (US), Inc.; Trend Smart America, Ltd.; Innolux Corp.; Innolux USA, Inc.; Amtran Technology Co., Ltd.; Amtran Logistics, Inc.; and Newegg, Inc. (collectively, “Vizio”), alleging infringement of U.S. Patent No. 7,843,148 (the “’148 Patent”). Complaint, Docket No. 1.

The parties filed a Joint Claim Construction and Pre-hearing Statement identifying several disputed terms for construction. Docket No. 64. The parties each filed an opening claim construction brief. Polaris’ Opening Claim Construction Brief, Docket No. 70; Vizio’s Opening Claim Construction Brief, Docket Nos. 69. The parties also filed responsive claim construction briefs. Polaris’ Responsive Claim Construction Brief, Docket No. 72; Vizio’s Responsive Claim Construction Brief, Docket No. 71. The Court construes the disputed terms as stated herein.¹

II. BACKGROUND

The ’148 Patent, titled “Driving Multiple Parallel LEDs with Reduced Power Supply Ripple,” was filed on April 8, 2017. It relates to a Light Emitting Diode (“LED”) driver that drives LEDs connected in parallel. *See generally* ’148 Patent. LED drivers regulate the brightness for LEDs. *See id.* at 1:15-19. For instance, LED drivers could be used to power LEDs to backlight a television. *See* Docket No. 69 at 6. The ’148 Patent discloses using a technique called “pulse-width modulation” (“PWM”) to regulate voltage for LED parallel paths. *See* ’148 Patent, Abstract. PWM is known in the art. *Id.* at 1:40-53. It involves sending voltage through the parallel paths in the form of a rectangular wave (pulse). *See* Docket No. 69 at 6. The pulse has a certain duration (width). *Id.* The term “duty cycle” refers to the ratio of the pulse duration versus the entire cycle (the pulse duration plus the duration of the time in between pulses). *Id.* at 7. For instance, a 50%

¹ Vizio indicates it withdrew the term “wherein the driver is formed as an integrated circuit.” Docket No. 69 at 6, fn.1. Accordingly, the Court does not construe this term.

duty cycle describes a cycle in which a pulse duration comprises half of the total cycle. *Id.* The duration of the pulse may be increased or decreased (modulation) to adjust the duty cycle. *Id.*

Adjusting the duty cycle alters the perceived brightness of the LEDs. *See* '148 Patent at *See* '148 Patent at 2:7-12; 4:1-7. In other words, when a person views something lit by the LED paths, they perceive an average brightness level depending on the duty cycle. In some instances, using PWM techniques for multiple parallel paths can cause problems. For example, if a driver supplies a high voltage to all parallel paths, regulating the voltage consistent with PWM may require instantaneously stopping or starting the supply at the same time, for all paths. *Id.* at 2:41-57. This start/stop event can cause voltage ripples in the power supply and can produce noise, affecting other components connected to the supply. *Id.* To resolve this issue, the '148 Patent proposes staggering the PWM signals to avoid a simultaneous on/off event and the accompanying voltage ripple. *See e.g., id.* at 5:48-57. FIG. 4 shows an example of an LED driver, driving LED parallel paths using a staggered PWM technique:

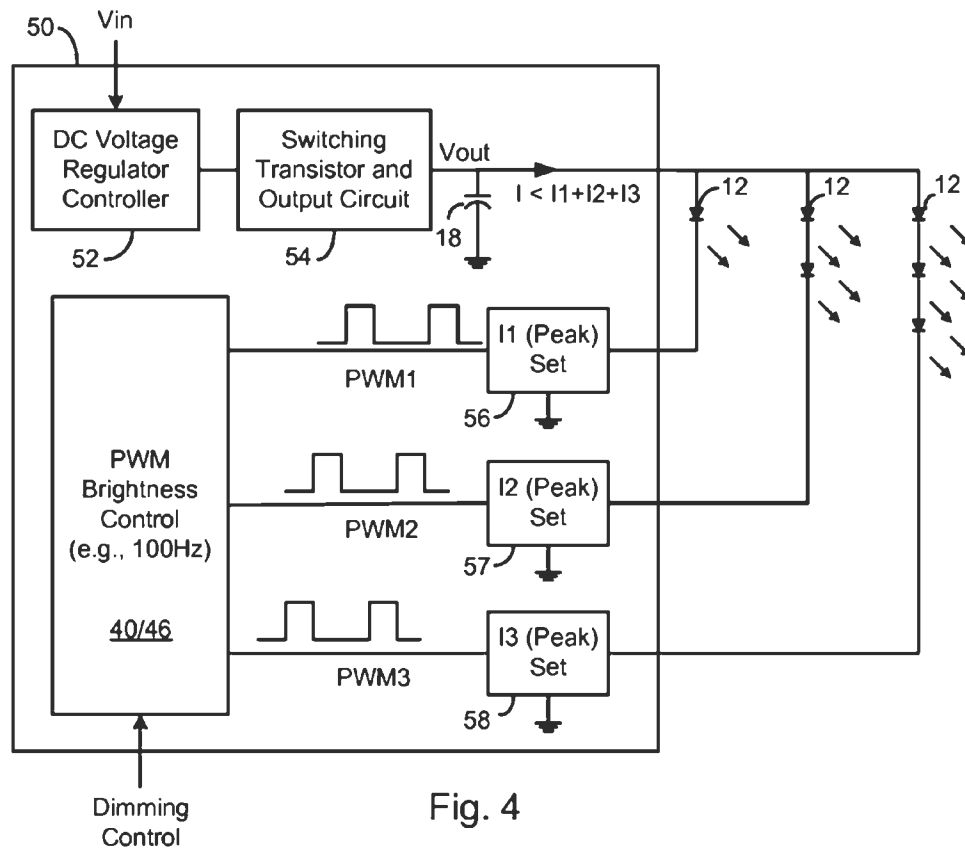


Fig. 4

Staggering may provide power efficiency advantages and the reductions in voltage ripple, causing flickering, may also reduce eye strain. *See id.* at 6:17-23. The '148 Patent discloses different staggering techniques including, for example using a binary bit pattern. *Id.*, FIG. 3.

Claim 1 discloses an LED driver, as discussed above, and recites:

1. A light emitting diode (LED) driver for driving LEDs connect to different parallel paths, the driver comprising:
 - a voltage source for connection to first ends of LEDs in a plurality of parallel paths;
 - a plurality of current set circuits, one current set circuit per parallel path, each current set circuit controlling a peak current through one or more LEDs connected in each parallel path; and
 - a pulse-width modulated (PWM) brightness control signal generator connected to the plurality of current set circuits, the brightness control signal generator being configured to generated ***staggered PWM brightness control signals*** to the plurality of current set circuits,
- each current set circuit being configured to draw the peak current through its associated one or more LEDs at ***a duty cycle substantially corresponding to a duty cycle of a PWM brightness control signal applied to it***, such that the plurality of current set circuits conduct current through their associated one or more LEDs at the same duty cycle but out of phase with each other.

'148 Patent, Claim 1 (emphasis added to show disputed terms).

III. LEGAL STANDARD

A. Claim Construction

Claim construction is an interpretive issue “exclusively within the province of the court.” *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). It is “a question of law in the way that we treat document construction as a question of law,” with subsidiary fact-finding reviewed for clear error to Fed. R. Civ. P. 52(a)(6). *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S.Ct. 831, 837-40 (2015). The claim language itself is the best guide to the meaning of a claim term. *See Vederi, LLC v. Google, Inc.*, 744 F.3d 1376, 1382 (Fed. Cir. 2014). This is because the claims define the scope of the claimed invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). But a “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.” *Id.* at 1313. Thus, claims “must be read in view of the specification,” which is “always highly relevant to the claim construction analysis.” *Phillips*, 415 F.3d at 1315 (internal quotations omitted).

Although claims are read in light of the specification, limitations from the specification must not be imported into the claims. *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009). “[T]he line between construing terms and importing limitations can be discerned with reasonable certainty and predictability if the court’s focus remains on understanding how a person of ordinary skill in the art would understand the claim terms.” *Phillips*, 415 F.3d at 1323.

The prosecution history may lack the clarity of the specification, but it is “another established source of intrinsic evidence.” *Vederi*, 744 F.3d at 1382. “Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent.” *Phillips*, 415 F.3d at 1317 (citations omitted). “Furthermore, like the specification, the prosecution history was created by the patentee in attempting to explain and obtain the patent.” *Id.* “Yet because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Id.*

Claim construction usually involves resolving disputes about the “ordinary and customary meaning” that the words of the claim would have had “to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1312-13 (internal quotations and citations omitted). But in some cases, claim terms will not be given their ordinary meaning because the specification defines the term to mean something else. “[A] claim term may be clearly redefined without an explicit statement of redefinition,” so long as a person of skill in the art can ascertain the definition by a reading of the patent documents. *Id.* at 1320; *see also Trustees of Columbia Univ. in City of New York v. Symantec Corp.*, 811 F.3d 1359, 1364 (Fed. Cir. 2016).

Where the patent itself does not make clear the meaning of a claim term, courts may look to “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 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 (internal quotations omitted). Sometimes, the use of “technical words or phrases not commonly understood” may give rise to a factual dispute, the determination of which will precede the ultimate legal question of the significance of the facts to the construction “in the context of the specific patent claim under review.” *Teva*, 135 S. Ct. at 841, 849. “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than

the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. “In such circumstances, general purpose dictionaries may be helpful.” *Id.*

B. Indefiniteness

A patent’s specification must conclude “with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.” 35 U.S.C. § 112(b); *see also* 35 U.S.C. § 112 ¶ 2 (2006). In order to meet this “definiteness” requirement, “a patent’s claims, viewed in light of the specification and prosecution history, [must] inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.* (“*Nautilus I*”), 572 U.S. 898, 910 (2014). The Supreme Court in *Nautilus I* emphasized that patents must be precise enough to afford clear notice of what is claimed, thereby “appris[ing] the public of what is still open to them,” while recognizing that absolute precision is unobtainable given “the inherent limitations of language.” *Id.* at 899, 910 (quoting *Markman*, 517 U.S. at 373).

General claim construction principles apply to indefiniteness challenges, but the burdens are slightly different. *See Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010) (“In the face of an allegation of indefiniteness, general principles of claim construction apply”) (internal quotations and citations omitted). While courts construing claim language sit in relative equipoise, a patent is “presumed valid under 35 U.S.C. § 282.” *Biosig Instruments, Inc. v. Nautilus, Inc.* (“*Nautilus II*”), 783 F.3d 1374, 1377 (Fed. Cir. 2015). “[C]onsistent with that principle, a fact finder is instructed to evaluate . . . whether an invalidity defense has been proved by clear and convincing evidence.” *Id.* (quoting *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 111 (2011)) (emphasis added, brackets removed); *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1345 (Fed. Cir. 2007) (“Because a patent is presumed to be valid, the evidentiary burden . . . is one of clear and convincing evidence.”).

IV. ANALYSIS

A. Agreed Claim Terms

The parties have not agreed upon any constructions.

B. Disputed Claim Terms

1. “staggered PWM brightness control signals / staggered pulse width modulated (PWM) brightness control signals” (Claims 1 and 14)

Polaris' Proposed Construction	Vizio's Proposed Construction
Plain and ordinary meaning.	Identical but phase-shifted PWM brightness control signals

Vizio's proposed construction includes two requirements: (1) that the PWM brightness control signals are identical, meaning they have the same duty cycle and (2) that "staggered" means "phase-shifted." Polaris disputes the appropriateness of both requirements.

First, the Court looks to the claim language. Claim 1 discloses that "a pulse-width modulated (PWM) brightness control signal generator" generates "staggered PWM brightness control signals to the plurality of current set circuits." '148 Patent, Claim 1. Claim 1 further discloses that "each current set circuit" draws peak current through its LEDs "at a duty cycle substantially corresponding to the duty cycle of a PWM brightness control signal applied to it." *Id.* Put simply, the duty cycle of the current matches the duty cycle of the signal. Then, claim 1 discloses "the plurality of current set circuits conduct current . . . at the same duty cycle but out of phase with each other." Because the duty cycle for the current matches the duty cycle for the signal, and the duty cycle for the current is the same for each current set circuit, the duty cycles for the signals generated to the current set circuits must also be the same. The claim also expressly requires that the current set circuits conduct current out of phase. Because the signal enables or disables the current (*see, e.g.*, '148 Patent at 5:48–57), the signal would also need to be out of phase. For these reasons, the plain language of claim 1, read in view of the specification, supports Vizio's proposed construction.

Next, the Court looks to the specification itself. It also supports Vizio's construction. For instance, it discloses, "[t]he current set circuits 56-58 are effectively enabled and disabled by their associated staggered PWM brightness control signal PWM1, PWM2, or PWM3." *Id.* at 5:48–51. It further discloses, "[t]he PWM brightness control signals for each parallel path of LEDs are tapped from different positions along the shift register 40 so that the PWM brightness control signals are identical but staggered." *Id.* at 4:42–46; *see also* 5:7–11. It confirms, "[t]he turning on of the LEDs in the different parallel paths will have the same duty cycle but will be out of phase." *Id.* With respect to one embodiment, it explains, "there are three taps outputting the staggered PWM signals: PWM1, PWM2, and PWM3. Each PWM signal will have the pattern 11111000, representing a 62.5% duty cycle. The taps may be in a different order, such as PWM1, PWM3, and PWM2." FIG. 2A shows:

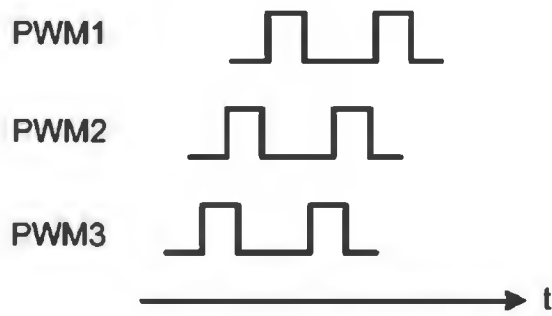


Fig. 2B

Id., FIG. 2B. Describing FIG. 2B, the specification explains, “[i]n other words, the PWM signals are out of phase with each other.”

Because embodiments should not be read to limit the claims, the Court does not read the example shown in FIG. 2B to limit claim 1 to a particular way of staggering the signal, involving a particular bit code. Still, as required by claim 1, the effect of the staggering, regardless of the method used, is that the signals are out of phase. For this reason, Polaris’ remaining arguments are not persuasive. For instance, Polaris points to a portion of the specification disclosing, “[t]he PWM brightness control unit 40/46 may be either of the shift registers 40 or 46 in FIGS. 2A and 2B, or may be any other circuit that operates to stagger a PWM signal, such as a delay line.” *Id.* at 5:54-57. However, this portion discusses *how* to stagger the signal but not what it means for the signal to be staggered, *i.e.*, out of phase. Accordingly, construing “staggered” to mean “out of phase” does not read out any embodiments. Polaris also discusses potential methods to stagger signals involving changing the frequency of the signals. This may be possible but claim 1 expressly requires that the currents, and thus signals, be “out of phase with each other.” ’148 Patent, Claim 1. This claim language also contradicts the portion of the specification disclosing that “[i]f the driver drives many parallel paths, some paths may be driven in phase and other paths driven out of phase.” *Id.* at 4:63-64. The “in phase” embodiment is not claimed.

For the foregoing reasons, the Court construes “staggered PWM brightness control signals / staggered pulse width modulated (PWM) brightness control signals” to require that the signals (1) have the same duty cycle and (2) are out of phase.²

² Vizio requested leave to file a supplemental brief addressing arguments it contends Polaris raised for the first time in its responsive brief. Docket No. 76. Because the Court finds the intrinsic record, as presented in the

2. “a duty cycle substantially corresponding to a duty cycle of a PWM brightness control signal applied to it” (Claim 1)

Polaris’ Proposed Construction	Vizio’s Proposed Construction
Plain and ordinary meaning.	Indefinite.

The parties dispute whether the term of degree, “substantially,” renders the claim indefinite. Vizio contends the intrinsic record does not provide adequate support explaining the scope of “substantially.” Docket No. 69 at 16.

“[A] patent’s claims, viewed in light of the specification and prosecution history, [must] inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus I*, 572 U.S. at 910. This definiteness requirement calls for a “delicate balance.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (citing *Nautilus I*, 572 U.S. at 909). It must “allow for a modicum of uncertainty” to incentivize innovation but still requires “clear notice of what is claimed” to apprise the public of what is still open to them.” *Id.*

Patent drafters often use approximation words – like “substantially” – to affirmatively indicate that total precision is not required. Manzo, Claim Constr. in the Fed. Circuit (2011 ed.) § 4:1, at 596. While courts have sometimes found the word “substantially” to be indefinite, the Federal Circuit has found on many occasions that terms like “substantially” do not render claims indefinite. *See, e.g., Tinnus Enterprises, LLC v. Telebrands Corp.*, 733 F. App’x 1011, 1018 (Fed. Cir. 2018) (*quoting Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1359 (Fed. Cir. 2012)); *see also Verve v. Crane Cams*, 311 F.3d 1116, 1120 (Fed. Cir. 2002) (“substantially constant” definite). “Rather, ‘as long as claim terms satisfy the *Nautilus* test, relative terms and words of degree do not render patent claims invalid.’” *Tinnus*, 733 F. App’x at 1018 (brackets omitted) (*quoting One-E-Way, Inc. v. Int’l Trade Comm’n*, 859 F.3d 1059, 1063 (Fed. Cir. 2017)).

Thus, terms like “substantially,” are not per se indefinite. *Interval Licensing*, 766 F.3d at 1370. They can be definite when they provide a person having skill in the art sufficient certainty as to the scope of the claimed invention. *Id.*; *see also Intellectual Ventures I, LLC v T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. (2018)). However, “purely subjective” terms of degree, which leave the scope of the claim entirely up to user discretion, are indefinite. *See id.* (citing

parties’ opening and responsive briefs, sufficient to resolve the dispute, the Court declines to consider Vizio’s supplemental brief.

Datamize, LLC v. Plumtree Software, Inc., 417 F.3d 1342, 1350-51 (Fed. Cir. 2005). When faced with subjective claim terms, courts look to the written description for guidance. *Id.* at 1371.

Here, the specification provides no express guidance as to the meaning of the term “substantially.” In one embodiment, it does describe an output voltage as “substantially constant.” *Id.* at 6:11-13. The specification does not explain what “substantially constant” means. As Polaris argues, however, a person of skill in the art could deduce, based on the context, that “substantially” accounts for minor variances due to tolerances in circuit components. Docket No. 72 at 11-12.³ In this sense, “substantially” appears to capture the fact that, due to these real-world effects, the system does not maintain a perfectly constant voltage. As discussed above, the specification also discloses that “[t]he current set circuits 56-58 are effectively enabled and disabled by their associated staggered PWM brightness control signal PWM1, PWM2, or PWM3.” *Id.* at 5:48–51.

Given the above, the ’148 Patent is best understood as using the term “substantially” to indicate that the duty cycles need not perfectly correspond due to tolerances in the circuit components. In other words, “substantially” does not refer to some acceptable amount of departure from a baseline; rather, it merely accounts for real world influences that may cause imperfections. This type of use does not pose a definiteness issue. *Fontem Ventures, B. V. v. NJOY, Inc.*, No. CV 14-1645-GW(MRWx), 2015 WL 12781794, at *7 (C.D. Cal. May 7, 2015) (“Rather than invalidating the claims, the Court would construe ‘substantially’ as a term of approximation designed to capture ‘minor variations that may be appropriate to secure the invention.’”) (quoting *Verve*, 311 F.3d at 1120).

In its supplemental brief addressing this term, Vizio essentially raises a claim differentiation argument. *See generally* Vizio’s Supp. Brief, Docket No. 84. Vizio argues that the term “substantially” must refer to something more than mere tolerances. *Id.* In Vizio’s view, “substantially” cannot merely account for tolerances because that would suggest tolerances are unacceptable where the claims use the language “the same as” but not “substantially.” *Id.* Because the specification does not define the “something more,” the term is indefinite. *Id.* Vizio concludes, “because the patentee chose to use the word ‘substantially’ in some instances, but not others, there must be a difference between the comparisons that use the term ‘substantially’ and those that do

³ In its opening brief, Polaris defines “substantially” as important. *See* Docket No. 70 at 14. That is not helpful here since, as used in the claims, “substantially” indicates the extent to which the duty cycles correspond, not that the duty cycles correspond in an “important” way. The Court rejects this argument.

not.” *Id.* at 3.

The Court disagrees with Vizio’s conclusion. “Claim differentiation is a guide, not a rigid rule. If a claim will bear only one interpretation, similarity will have to be tolerated.” *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991) (quoting *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 404 (Ct. Cl. 1967)). Claims 1 and 14 include the following language:

- “each current set circuit being configured to draw the peak current through its associated one or more LEDs at a duty cycle ***substantially corresponding to*** a duty cycle of a PWM brightness control signal applied to it, such that the plurality of current set circuits conduct current through their associated one or more LEDs at ***the same*** duty cycle but out of phase with each other.” ’148 Patent, Claim 1 (emphasis added).
- “drawing the peak current through the one or more LEDs in each parallel path, set by its associated current set circuit, at a duty cycle ***corresponding to*** a duty cycle of an associated PWM brightness control signal, such that the parallel paths of LEDs conduct current ***at substantially the same*** duty cycle but out of phase with each other.” ’148 Patent, Claim 14 (emphasis added).

Though the drafting is somewhat inartful, the claims appear to use the terms “substantially corresponding to,” “the same,” “corresponding to,” and “at substantially the same” interchangeably. In other words, these terms all possibly account for the tolerances and carry the same meaning. This interpretation does not pose an indefiniteness problem. Given the two possible interpretations for “substantially” – the indefiniteness position Vizio advances and the meaning the Court tentatively adopts, discussed above, Vizio cannot establish indefiniteness by clear and convincing evidence.

For the foregoing reasons, the Court does not find the term “substantially” indefinite within the context of claim 1, as set out in the above discussion.⁴

3. “applying a different staggered PWM brightness control signals to each current set circuit” (Claim 14)

Polaris’ Proposed Construction	Vizio’s Proposed Construction
Plain and ordinary meaning.	Indefinite.

The parties dispute whether this term is indefinite based on a grammatical error in the claim

⁴ At the hearing, Vizio referenced an Eastern District of Texas case where the court found the term “substantially” rendered claim language indefinite. *See Clear Imaging Rsch., LLC v. Samsung Elecs. Co.*, No. 2:19-CV-00326-JRG, 2020 WL 6384731, at *20 (E.D. Tex. Oct. 30, 2020). However, in addition to being non-binding, that case is distinguishable because descriptions in the specification and concomitant figures added to the confusion over what the term “substantially” meant.

drafting. The claim discloses, “a different staggered PWM brightness control signals.” ’148 Patent, Claim 1 (emphasis added to clarify singular/ plural disagreement). Vizio contends that because the term can be rewritten two different ways, as applying “a signal” or applying “signals,” it potentially encompasses two different and equally plausible meanings, rendering the scope indefinite. Polaris disagrees.

In patent drafting, an indefinite article usually means one or more. *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000). Thus, regardless of how the claim is rewritten, it would potentially capture applying one or more signals. This, alone, does not raise an indefiniteness issue. Rather, the question is whether the claim is directed to two inconsistent possibilities, as Vizio contends. These would be: (1) applying signals to each current set circuit such that each current set circuit receives a signal or (2) applying signals to each current set circuit such that each current set circuit receives a plurality of signals.

Based on the claims and written description, the first option appears correct. The Court disagrees that Claim 17 is not useful in resolving the discrepancy. Claim 17 discloses “applying a different staggered PWM brightness control signal to each current set circuit comprises applying each staggered PWM brightness control signals to an associated transistor.” ’148, Claim 17 (emphasis added to show grammatical error). Though it includes a similar error to Claim 14, the term “each” indicates a one-to-one correspondence between signals and associated transistors, making the error fairly easy to correct. Due to the term “each,” the extra “s” in “signals” should be eliminated. In view of Claim 17, it follows that the extra “s” in “signals” in Claim 14 should also be eliminated. This correction also mirrors the language of Claim 1. *See* ’148 Patent, Claim 1 (disclosing “each current set circuit being configured to draw the peak current through its associated one or more LEDs at a duty cycle substantially corresponding to a duty cycle of a PWM brightness control signal applied to it . . .”).

As Vizio argues, the first option also appears consistent with other claims, including claim 16, and the specification. Docket No. 69 at 24. For instance, FIG. 2B, above, shows a different, staggered signals for each parallel path. *See also* ’864 Patent at 4:31-5:11 and FIG. 4. In support of the second option, Vizio cites only claim 15 from the intrinsic record. Docket No. 69 at 25-26. Claim 15 discloses, “varying the duty cycle” of the signals. Still, to reach Vizio’s conclusion, one would need to accept that varying the duty cycle in fact produces a different signal. Absent further supporting evidence, the Court is reluctant to adopt this reading of claim 15, which is not subject

to any dispute.

For the foregoing reasons, the term is not indefinite. Claim 14 should read “applying a different staggered PWM brightness control signal to each current set circuit.”

4. “at substantially the same duty cycle” (Claim 14)

Polaris’ Proposed Construction	Vizio’s Proposed Construction
Plain and ordinary meaning.	Indefinite.

For the same reasons discussed above concerning term no. 2 (“a duty cycle substantially corresponding to a duty cycle of a PWM brightness control signal applied to it”), the Court does not find this term indefinite.

5. “wherein applying a different staggered PWM brightness control signal to each current set circuit comprises” (Claim 16)

Polaris’ Proposed Construction	Vizio’s Proposed Construction
Plain and ordinary meaning.	Indefinite.

For the same reasons discussed above concerning term no. 3 (“applying a different staggered PWM brightness control signals to each current set circuit”), the Court does not find this term indefinite.

6. “applying a different staggered PWM brightness control signal to each current set circuit comprises applying each staggered PWM brightness control signals to an associated transistor” (Claim 17)

Polaris’ Proposed Construction	Vizio’s Proposed Construction
Plain and ordinary meaning.	Indefinite.

For the same reasons discussed above concerning term no. 3 (“applying a different staggered PWM brightness control signals to each current set circuit”), the Court does not find this term indefinite.

V. CONCLUSION

For the foregoing reasons, the Court construes the disputed claim terms as follows:

Term	Court’s Construction
“staggered PWM brightness control signals / staggered pulse width modulated (PWM) brightness control signals” (Claims 1 and 14)	Requires that the signals (1) have the same duty cycle and (2) are out of phase.
“a duty cycle substantially corresponding to a duty	Not indefinite as the Court holds that

cycle of a PWM brightness control signal applied to it” (Claim 1)	“substantially” indicates that the duty cycles need not perfectly correspond due to tolerances in the circuit components.
“applying a different staggered PWM brightness control signals to each current set circuit” (Claim 14)	Not indefinite. Plain and ordinary meaning.
“at substantially the same duty cycle” (Claim 14)	Not indefinite. Plain and ordinary meaning.
“wherein applying a different staggered PWM brightness control signal to each current set circuit comprises” (Claim 16)	Not indefinite. Plain and ordinary meaning.
“applying a different staggered PWM brightness control signal to each current set circuit comprises applying each staggered PWM brightness control signals to an associated transistor” (Claim 17)	Not indefinite. Plain and ordinary meaning.