

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

NEODRON, LTD.,

Plaintiff,

v.

FUJITSU AMERICA, INC.,

Defendant.

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Case No. 2:20-cv-00239-JRG-RSP

CLAIM CONSTRUCTION MEMORANDUM OPINION AND ORDER

Before the Court is the opening claim construction brief of Neodron Ltd. (“Plaintiff”) (Dkt. No. 61, filed on May 6, 2021),¹ the response of Fujitsu America, Inc. (“Defendant”) (Dkt. No. 63, filed on May 20, 2021), and Plaintiff’s reply (Dkt. No. 66, filed on May 27, 2021). The Court held a hearing on the issues of claim construction and claim definiteness on June 17, 2021. Having considered the arguments and evidence presented by the parties at the hearing and in their briefing, the Court issues this Order.

¹ Citations to the parties’ filings are to the filing’s number in the docket (Dkt. No.) and pin cites are to the page numbers assigned through ECF.

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I. BACKGROUND

Plaintiff alleges infringement of three U.S. Patents: No. 8,946,574 (“’574 Patent”), No. 9,823,784 (“’784 Patent”), and No. 10,088,960 (“’960 Patent”) (collectively, the “Asserted Patents”). The ’574 Patent lists an earliest priority claim to a patent application filed on April 18, 2011. The ’784 and ’960 each list an earliest priority claim to a provisional patent application filed on April 10, 2008.

In general, the Asserted Patents are directed to technology for improving the performance of touch sensors.

The abstract of the ’574 Patent provides:

In one embodiment, an method apparatus includes an optically clear adhesive (OCA) layer between a cover sheet and a substrate. The substrate has drive or sense electrodes of a touch sensor disposed on a first surface and a second surface of the substrate. The first surface is opposite the second surface and the drive or sense electrodes are made of a conductive mesh of conductive material including metal.

The abstract of the ’784 Patent provides:

A capacitive touch sensor wherein the touch sensitive panel has drive electrodes arranged on the lower side of a substrate and sense electrodes arranged on the upper side. The drive electrodes are shaped and dimensioned to substantially entirely cover the touch sensitive area with individual drive electrodes being separated from each other by small gaps, the gaps being so small as to be practically invisible. The near blanket coverage by the drive electrodes also serves to screen out interference from noise sources below the drive electrode layer, such as drive signals for an underlying display, thereby suppressing noise pick-up by the sense electrodes that are positioned above the drive electrodes.

The abstract of the ’960 Patent provides:

In certain embodiments, an apparatus includes a first substrate with sense electrodes of a touch sensor disposed on it and a second substrate with drive electrodes of the touch sensor disposed on it. One or more of the following is true: the sense electrodes of the first substrate are made of a first conductive mesh of conductive material such that the sense electrodes include the first conductive mesh; and the drive electrodes of the second substrate are made of a second conductive mesh of conductive material such that the drive electrodes include the second conductive mesh. The apparatus also includes an insulating layer between the sense electrodes of the first substrate and the drive electrodes of the second substrate.

Claim 3 of the '574 Patent and Claim 3 of the '784 Patent, exemplary asserted claims, recite as follows (with terms in dispute emphasized²):

'574 Patent:

1. An apparatus comprising:
a first optically clear adhesive (OCA) layer between a first cover sheet and a substrate;
the substrate, with drive or sense electrodes of a touch sensor disposed on a first surface and a second surface of the substrate, the first surface being opposite the second surface, the drive or sense electrodes being made of a conductive mesh conductive material comprising metal; and
a display separated from the second surface of the substrate by a second OCA and a second cover sheet such that at least a portion of the second cover sheet is positioned between the second surface of the substrate and the display.

3. The apparatus of claim 1, wherein the conductive mesh comprises a plurality of mesh segments, each of the mesh segments having a width of *approximately 10 μm*.

'784 Patent:

3. A method comprising: sensing a position of an object within a sensing region, the sensing region comprising: a plurality of drive electrodes disposed on a first side of a substrate in a first layer; and a plurality of sense electrodes disposed on a second side of the substrate in a second layer so that the sense electrodes intersect the drive electrodes at a plurality of intersections offset by a thickness of the substrate, wherein the plurality of drive electrodes are *substantially area filling* within the sensing region relative to the plurality of sense electrodes; wherein a gap between adjacent sense electrodes has a width that is at least three-fifths of the pitch of the sense electrodes; and communicating a plurality of signals resulting from a capacitance sensed by the drive and sense electrodes and indicative of the position of the object within the sensing region; wherein the sensing region further comprises a plurality of isolated conductive elements disposed on the second side of the substrate between the sense electrodes so that, together, the plurality of sense electrodes and the plurality of isolated conductive elements are *substantially area filling* within the sensing region relative to the plurality of sense electrodes.

The '784 Patent was construed by the U.S. District Court for the Western District of Texas in Claim Construction Order, *Neodron, Ltd. v. Dell Techs., Inc.*, 1:19-cv-00819-ADA (July 28,

² The parties originally also disputed the constructions of “conductive mesh,” “mesh segment(s),” “isolated conductive elements,” “first conductive mesh,” and “second conductive mesh.” Dkt. No. 59; Dkt. No. 61; Dkt. No. 63.

2020), Dkt. No. 100 (the “*Dell Claim Construction Order*”). The court there addressed the following disputes related to the disputes presently before the Court:

term	Plaintiff’s Proposal	WDTX Defendants’ Proposal	WDTX Construction
“wherein the plurality of drive electrodes are substantially area filling within the sensing region relative to the plurality of sense electrodes” • ’784 Patent Claims 1–3	Plain and ordinary meaning; no construction necessary	Indefinite.	Not indefinite. Plain and ordinary meaning where the drive electrodes are substantially area filling and where the drive electrodes are more area filling than the sense electrodes.
“together, the plurality of sense electrodes and the plurality of isolated conductive elements are substantially area filling within the sensing region relative to the plurality of sense electrodes” • ’784 Patent Claims 1–3	Plain and ordinary meaning; no construction necessary	Indefinite.	Not indefinite. Plain and ordinary meaning where the sense electrodes and isolated conductive elements are substantially area filling and where the sense electrodes and isolated conductive elements are more area filling than the sense electrodes.

Id. at 2; Plaintiff’s Opening Claim Construction Brief at 33–38, *Neodron, Ltd. v. Dell Techs., Inc.*, 1:19-cv-00819-ADA (July 28, 2020), Dkt. No. 61.³

II. LEGAL PRINCIPLES

A. Claim Construction

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*,

³ Submitted here as Plaintiff’s Ex. 1. Dkt. No. 61-1.

381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) (“There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.”) (vacated on other grounds).

“The claim construction inquiry ... begins and ends in all cases with the actual words of the claim.” *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). “[I]n all aspects of claim construction, ‘the name of the game is the claim.’” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)). First, a term’s context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim’s meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. “[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office (“PTO”) and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, “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.* at 1318; *see also Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be “unhelpful as an interpretive resource”).

Although extrinsic evidence can also be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are not helpful to a court. *Id.* Extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.* The Supreme Court has explained the role of extrinsic evidence in claim construction:

In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be “so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning”). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the “evidentiary underpinnings” of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

Teva Pharm. USA, Inc. v. Sandoz, Inc., 574 U.S. 318, 331–32 (2015).

B. Departing from the Ordinary Meaning of a Claim Term

There are “only two exceptions to [the] general rule” that claim terms are construed according to their plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the

specification or during prosecution.”⁴ *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.”). The standards for finding lexicography or disavowal are “exacting.” *GE Lighting Solutions*, 750 F.3d at 1309.

To act as his own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term,” and “clearly express an intent to define the term.” *Id.* (quoting *Thorner*, 669 F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee’s lexicography must appear “with reasonable clarity, deliberateness, and precision.” *Renishaw*, 158 F.3d at 1249.

To disavow or disclaim the full scope of a claim term, the patentee’s statements in the specification or prosecution history must amount to a “clear and unmistakable” surrender. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at 1366 (“The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”). “Where an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

C. Definiteness Under 35 U.S.C. § 112, ¶ 2 (pre-AIA) / § 112(b) (AIA)

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must

⁴ Some cases have characterized other principles of claim construction as “exceptions” to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).

“inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 901. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application for the patent was filed. *Id.* at 911. As it is a challenge to the validity of a patent, the failure of any claim in suit to comply with § 112 must be shown by clear and convincing evidence. *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017). “[I]ndefiniteness is a question of law and in effect part of claim construction.” *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012).

When a term of degree is used in a claim, “the court must determine whether the patent provides some standard for measuring that degree.” *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quotation marks omitted). Likewise, when a subjective term is used in a claim, “the court must determine whether the patent’s specification supplies some standard for measuring the scope of the [term].” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005). The standard “must provide objective boundaries for those of skill in the art.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014).

III. AGREED CONSTRUCTIONS

The parties have agreed to constructions set forth in their P.R. 4-5(d) Joint Claim Construction Chart (Dkt. No. 67). Based on the parties’ agreement, the Court hereby adopts the agreed constructions.

IV. CONSTRUCTION OF DISPUTED TERMS

A. “approximately 10 μm ,” “approximately 5%,” and “approximately 90%”

Disputed Term ⁵	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“approximately 10 μm ” • ’574 Patent Claims 3, 10	no construction necessary	indefinite
“approximately 5%” • ’574 Patent Claim 4, 11	no construction necessary	indefinite
“approximately 90%” • ’574 Patent Claim 6, 13	no construction necessary	indefinite

Because the parties’ arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties’ Positions

Plaintiff submits: Because absolute precision in claim language is not possible, terms of approximation are commonly used in patent claims. There is no evidence that one of ordinary skill in the art would not understand the scope of the “approximately” claims with reasonable certainty. Dkt. No. 61 at 14–16.

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: ’574 Patent at col.4 ll.3–19.

Defendant responds: The ’574 Patent does not provide “any indication as to what a reasonable amount of deviation would be from the proscribed boundaries” of the “approximately ...” terms. For instance, there is no indication as to how far from 10 μm a mesh segment may be and still have “a width of approximately 10 μm .” Similarly, it is unclear what area qualifies as “approximately

⁵ For all term charts in this order, the claims in which the term is found are listed with the term but: (1) only the highest-level claim in each dependency chain is listed, and (2) only asserted claims identified in the parties’ P.R. 4-5(d) Joint Claim Construction Chart (Dkt. No. 67) are listed.

5% of an active area” or what optical transmissivity qualifies as “approximately 90%.” It is unclear what falls inside or outside the scope of the claims, and they are therefore indefinite. Dkt. No. 63 at 9–13.

In addition to the claims themselves, Defendant cites the following **intrinsic evidence** to support its position: ’574 Patent at col.4 ll.3–19.

Plaintiff replies: The Federal Circuit and this Court have both held that that the use of “approximately” in a claim properly avoids strict numerical boundaries without rendering the claim indefinite. Dkt. No. 66 at 3–4.

Analysis

The issue in dispute is whether the meanings of the “approximately ...” terms are reasonably certain in the context of the surrounding claim language and the description of the invention. They are.

The term “approximately” is not inherently definite or indefinite. As the Supreme Court recently reiterated, “the definiteness requirement must take into account the inherent limitations of language.” *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2128 (2014). Thus, words like “approximate” and “about” may appropriately be used to “avoid[] a strict numerical boundary to the specified parameter.” *Ortho-McNeil Pharm., Inc. v. Caraco Pharm. Labs., Ltd.*, 476 F.3d 1321, 1326 (Fed. Cir. 2007) (quoting *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1217 (Fed. Cir. 1995)). When such a word of approximation is used, the parameter’s “range must be interpreted in its technological and stylistic context.” *Id.* Thus, the range “depends upon the technological facts of the particular case.” *Id.* Courts “must look to the purpose that the [approximate] limitation serves” to determine the scope of the claimed variance indicated by the “approximate” language. *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1368 (Fed. Cir.

2008). For example, the Federal Circuit has construed an approximate-parameter limitation to encompass that which “accomplish[es] the function of the [parameter] described in the specification.” *Id.* at 1370. “This functional approach is necessary and appropriate, because the deliberate imprecision inherent in the word ‘about’ makes it impossible to ‘capture the essence’ of the claimed invention in strict numeric terms.” *Id.* The Federal Circuit has instructed that, in essence, the scope of a limitation directed to the approximate value of a parameter encompasses the equivalents of the absolute value of the parameter as informed by the description of the technological purpose of the parameter:

As our construction makes clear, “about 30 μm ” encompasses particle diameters that perform the same function, in the same way, with the same result as the 30 μm particles, as long as those diameters are within the range left open by the specific disclosures of the specification. Thus, by electing to include the broadening word “about” in the claim, the patentee has in this case already captured what would otherwise be equivalents within the literal scope of the claim.

...

[The] patentee has brought what would otherwise be equivalents of a limitation into the literal scope of the claim

Id. at 1372 (omitting quotation modification of μ as [mu]). However, when “nothing in the specification, prosecution history, or prior art provides any indication as to what range ... is covered,” the claim is indefinite. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1218 (Fed. Cir. 1991).

Here, “approximately” is used to avoid strict numerical boundaries on mesh-segment width, coverage area, and optical transmissivity parameters. For example, Claims 1, 3, 4, and 6 of the ’574 Patent provide:

1. An apparatus comprising:
a first optically clear adhesive (OCA) layer between a first cover sheet and a substrate;
the substrate, with drive or sense electrodes of a touch sensor disposed on a first surface and a second surface of the substrate, the first surface being

opposite the second surface, the drive or sense electrodes being made of a conductive mesh conductive material comprising metal; and a display separated from the second surface of the substrate by a second OCA and a second cover sheet such that at least a portion of the second cover sheet is positioned between the second surface of the substrate and the display.

3. The apparatus of claim 1, wherein the conductive mesh comprises a plurality of mesh segments, each of the mesh segments having *a width of approximately 10 μm*.

4. The apparatus of claim 3, wherein *approximately 5% of an active area* of the touch sensor *is covered* by the one or more mesh segments.

6. The apparatus of claim 1, wherein the conductive meshes have an *optical transmissivity of approximately 90%*.

'574 Patent col.14 l.46 – col.15 l.4 (emphasis added).

The Court finds that “approximately” is used here to denote a range of the specific mesh-segment width, coverage area, and optical transmissivity parameters for which the parameters equivalently serve their technological purposes described in the '574 Patent. For example, the patent provides that the width and area limitations are directed to addressing the impact of the mesh on the user’s ability to see the display:

In some examples, the sense electrodes may be patterned in narrow lines to allow most of the light emitted from the display and incident on the sense electrode layer to pass through the electrode layer between the narrow metal lines. The narrow lines may be no more than 20 microns wide. An exemplary range may be 1-5 microns. *Narrower lines have reduced visibility to the naked eye*. By forming electrodes 4 (X) or 5 (Y) from narrow conductive lines, the position-sensing panel may be formed such that *no more than about 10% of the active area is covered* by the metal lines of the electrodes. *Less coverage of the active area allows for greater transparency of the position-sensing panel reduces visibility of the electrodes to the human eye and reduces perceptible darkening or other loss of display quality*. An exemplary coverage may be less than 5%.

'574 Patent col.3 ll.31–45 (emphasis added). Similarly, the patent describes that the optical transmissivity of the mesh area is related to display visibility:

In one example, the electrode pattern 10 may be arranged so that no more than approximately 5% of the surface of the touch position-sensing panel is covered by the conductive lines 11. Thus, the contribution of the conductive lines to the

attenuation of light through a sensor should not be more than approximately 5%. Accordingly, although the conductive lines 11 may be opaque, in this example, the combined ***optical transmissivity of the electrode pattern 10 and all other electrode patterns on the panel may be 90% or more, allowing any display below the touch position-sensing panel 1 to be visible with little perceptible darkening or other loss of display quality.***

Id. at col.4 ll.7–19 (emphasis added). Ultimately, the meanings of the “approximately ...” parameter terms are reasonably certain given the explanation of the purposes of the parameters in the ’574 Patent. Whether a particular accused or prior-art technology is encompassed by the “approximately ...” terms is a factual matter of infringement or invalidity. *See, e.g., Modine Mfg. Co. v. United States ITC*, 75 F.3d 1545, 1554 (Fed. Cir. 1996) (“When the claims are applied to an accused device, it is a question of technologic fact whether the accused device meets a reasonable meaning of ‘about’ in the particular circumstances. Thus we turn to the factual aspects of the infringement determination.”); *W.L. Gore & Assocs. v. Garlock, Inc.*, 842 F.2d 1275, 1280 (Fed. Cir. 1988) (“Whether an imprecise claim limitation, such as the phrase ‘about 100% per second’ is literally met, is a question of fact for the trial court.”); *see also, Par Pharm., Inc. v. Hospira, Inc.*, 835 F. App’x 578, 584 (Fed. Cir. 2020) (“Although defining the outer reaches of ‘about’ in a claimed range can be a matter of claim construction, ‘[w]hen the claims are applied to an accused device, it is a question of technologic fact whether the accused device meets a reasonable meaning of ‘about’ in the particular circumstances.’” (quoting *Modine*, 75 F.3d at 1554)). That being said, the technological facts appear to be the sort of issue properly left to factfinders.

Accordingly, Defendant has failed to prove any claim is indefinite for including any of the “approximately ...” terms and the Court further determines that these terms have their plain and ordinary meanings without the need for further construction.

B. “substantially area filling”

Disputed Term	Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“substantially area filling” • ’784 Patent Claims 1–3	no construction necessary	indefinite

The Parties’ Positions

Plaintiff submits: As described in the ’784 Patent, “the purpose of having the electrode substantially fill the sensing area is to prevent the electrodes from being visible.” This provides sufficient guidance as to the scope of this term. Indeed, the parties agree that the claim phrases that include the “substantially area filling” term should be construed as they were in the *Dell Claim Construction Order*, where they were held to be not indefinite. Dkt. No. 61 at 19–21.

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: ’784 Patent col.8 ll.4–9, col.12 ll.5–14.

Defendant responds: The claims recite not simply that the electrodes are “substantially area filling” but that they are “substantially area filling ... relative to the plurality of sense electrodes.” What “substantially area filling” means in this context is not reasonably certain. The “relative to” language may require an additional limitation (substantially area filling and more area filling) or it may lower what coverage is required to be “substantially” filling through comparison with the sense electrodes. Nothing in ’784 Patent nor in its prosecution history provides any guidance on this issue. Dkt. No. 63 at 22–26.

In addition to the claims themselves, Defendant cites the following intrinsic and extrinsic evidence to support its position: **Intrinsic evidence:** ’784 Patent col.4 ll.24–27, col.4 ll.39–43, col.5 ll.18–21, col.5 ll.61–64, col.6 ll.12–15, col.6 ll.22–25, col.6 ll.57–59, col.8 ll.27–29; Dkt.

No. 65-2 at 39 ('784 Patent File Wrapper⁶ April 10, 2009 Application at Claim 1), Dkt. No. 65-3 at 3 (October 6, 2011 Response at 2), Dkt. No. 65-4 at 3, 10–11 (May 16, 2012 Amendment at 2, 9–10), Dkt. No. 65-5 at 4 (April 11, 2013 Office Action at 2). **Extrinsic evidence:** Dkt. No. 61-4 (Silzars Decl.⁷ ¶ 90).

Plaintiff replies: The issue that Defendant presents is resolved by Plaintiff's agreement to a construction proposed by Defendant. Indeed, the exact issue Defendant presents here was addressed in the *Dell Claim Construction Order* and the agreed construction is from that order. Dkt. No. 66 at 4–6.

At the hearing, Defendant argued that the meaning of “substantially area filling” is uncertain even without considering the “relative to the plurality of sense electrodes” claim language. Defendant identified only the following passage from its brief to support its contention that this position was presented and briefed: “The patent provides no explanation, however, of what it means to be ‘substantially area filling’ or substantially area filling relative to something else” (citing Dkt. No. 63 at 22).

Analysis

The issue in dispute is whether the meaning of “substantially area filling” is reasonably certain in the context of the surrounding claim language and the description of the invention. It is.

To begin, the Court notes an inconsistency in Defendant's position. Specifically, Defendant has represented throughout this proceeding that “wherein the plurality of drive electrodes are substantially area filling within the sensing region relative to the plurality of sense electrodes”

⁶ The cited file wrapper submissions appear to be references to documents submitted in the defendants' opening claim-construction brief in *Neodron Ltd. v. Dell Techs. Inc.*, No. 1:19-cv-819-ADA (W.D. Tex. Apr. 17, 2020), which Defendant here submits as Dkt. No. 65.

⁷ April 17, 2020 Declaration of Aris K. Silzars Regarding Claim Construction, *Neodron Ltd. v. Samsung Elecs. Co., Ltd. et al.*, No. 1:19-cv-903-ADA (W.D. Tex.), submitted as Dkt. No. 60-1 in *Neodron Ltd. v. Dell Techs. Inc.*, No. 1:19-cv-819-ADA (W.D. Tex. Apr. 17, 2020).

should be construed according to its plain and ordinary meaning, namely, “where the drive electrodes are substantially area filling and where the drive electrodes *are more area filling* than the sense electrodes.” Dkt. No. 59 (emphasis added) (P.R. 4-3 Joint Claim Construction and Prehearing Statement at 2); Dkt. No. 67 at 8 (emphasis added) (P.R. 4-5 Joint Claim Construction Chart). Thus, Defendant appears to agree that the “relative to” language in the claims plainly means that the drive electrodes are more area filling than the sense electrodes and that this is in addition to the drive electrodes being “substantially area filling.” In contrast to its P.R. 4-3 and P.R. 4-5 representations, Defendant briefed that the claims are indefinite because

[t]here is nothing to clarify whether the comparative language adds a requirement (*e.g.*, that the drive electrodes be both substantially area filling *and* more area filling than the sense electrodes) or *lowers* the threshold (*e.g.*, requiring only that the drive electrodes be area filling compared to the sense electrodes, regardless of whether they are area filling on their own.)

Dkt. No. 63 at 22–23 (*italics in original*); *see also, id.* at 26 (“There is no reliable way for a person of ordinary skill in the art to know with reasonable certainty whether a given electrode pattern will avoid infringement or what causes the drive electrode pattern to become ‘substantially area filling’ relative to the sense electrode pattern.”). Indeed, Defendant’s briefing on this issue is essentially a verbatim copy of the defendants’ opening brief submitted in *Neodron, Ltd. v. Dell Techs., Inc.*, 1:19-cv-00819-ADA (W.D. Tex.). *Compare* Dkt. No. 63 at 22–26 with Defendants’ Opening Claim Construction Brief on the Disputed Terms of the Touch Sensor Patents at 11–14, *Neodron, Ltd. v. Dell Techs., Inc.*, 1:19-cv-00819-ADA (April 17, 2020 W.D. Tex.), Dkt. No. 60 at 16–19⁸. This indefiniteness argument was rejected by the U.S. District Court for the Western District of Texas through a construction that is substantially identical to that agreed to by Defendant here. *Dell Claim Construction Order* at 2.

⁸ Submitted at Dkt. No. 65 in this matter.

With respect to the drive electrodes (and conductive elements) being substantially area filling “relative to” the sense electrodes, the Court agrees with the parties’ P.R. 4-3 and P.R. 4-5(d) positions that a plain reading of the claim language indicates that the drive electrodes (and conductive elements) are more area filling than the sense electrodes.

With respect to the drive electrodes (and conductive elements) being “substantially area filling,” the ’784 Patent provides sufficient guidance as to what constitutes “substantially area filling.” As set forth above, the technological purpose of an imprecise limitation can provide reasonably certain bounds to the limitation. Here, the technological purpose of the area-filling attribute is described in the ’784 Patent. For instance, the patent describes as follows:

According to a first aspect of the invention, a capacitive touch sensor is provided comprising a touch sensitive panel having a plurality of drive electrodes arranged on one side of a substrate in a first layer and a plurality of sense electrodes arranged on the other side of the substrate in a second layer so that the sense electrodes cross the drive electrodes at a plurality of intersections offset from each other by the thickness of the substrate, wherein the drive electrodes substantially entirely cover the first layer with individual ones of the drive electrodes being separated from neighboring drive electrodes by small gaps.

This approach has several important advantages. The touch sensor only requires the two layers of electrodes recited above to function, so that a third noise-suppressing layer as adopted in some prior art designs is superfluous. A two layer construction also leads to improved optical transmission, thinner overall depth and lower cost compared with designs with a greater numbers of layers. *The area-filling design for the drive electrodes with small gaps allows for an almost invisible drive electrode pattern, for example when using ITO, and also isolates the sense lines from capacitive effects below the first layer, for example noise from an underlying LCD module or other noise source.* The ‘flooding’ of the first layer with conductive material also allows the second layer to be implemented with narrow sense electrodes, far narrower than the dimension of the sensing object.

’784 Patent col.4 ll.17–43 (emphasis added). The patent also describes as follows:

Overall, the bars in Layer 1 can be seen to be *substantially area filling; almost all of the surface area is flooded with electrode.* The gaps between the bars 205 can be made arbitrarily small and indeed, the smaller the better from a visibility point of view. *Making the gaps larger than around 100µm is non-ideal as this leads to increased visibility of the gap to the human eye and a key goal is often to try and make an invisible touch screen.* A larger gap also tends to increase the possibility

of a significant fringing electric field near the gap to electrodes in Layer 2 which will lead to worsening non-linearity. Gaps of a few 10's of micrometers are common as they are almost invisible and can be easily mass-produced, for example gaps of between 20 and 50 micrometers.

Id. at col.12 ll.5–18 (emphasis added). The patent further explains:

In summary, the advantages of the described touch screen are:

...

2. Area filling design for electrodes on Layer 1 leading to; (i) almost invisible electrode pattern when using ITO (ii) isolation of the Y lines on Layer 2 from capacitive effects below Layer 1 (iii) partial attenuation of noise coupled from an underlying LCD module or other noise source.

Id. at col.17 ll.10–20. The technological purpose of the “substantially area filling” limitation is provided in the patent and provides one of ordinary skill in the art sufficient guidance as to the scope of the claims. Whether a particular accused or prior-art technology is encompassed by the “substantially area filling” terms is a factual matter of infringement or invalidity.

Accordingly, Defendant has failed to prove any claim is indefinite for including “substantially area filling” and further determines that this term has its plain and ordinary meaning without the need for further construction.

V. CONCLUSION

The Court adopts the constructions above for the disputed and agreed terms of the Asserted Patents. Furthermore, the parties should ensure that all testimony that relates to the terms addressed in this Order is constrained by the Court’s reasoning. However, in the presence of the jury the parties should not expressly or implicitly refer to each other’s claim construction positions and should not expressly refer to any portion of this Order that is not an actual construction adopted

by the Court. The references to the claim construction process should be limited to informing the jury of the constructions adopted by the Court.

SIGNED this 28th day of June, 2021.


ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE