Trials@uspto.gov
571-272-7822

Paper 11
Entered: June 11, 2020

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

NEODRON LTD.,
Patent Owner.

IPR2020-00282
Patent 7,821,502 B2

Before MIRIAM L. QUINN, PATRICK M. BOUCHER, and CHRISTOPHER L. OGDEN, *Administrative Patent Judges.*

OGDEN, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. ("Samsung" collectively) filed a Petition (Paper 4, "Pet.") under 35 U.S.C. §§ 311–319 for *inter partes* review of claims 1–21 of U.S. Patent No.

7,821,502 B2 (Ex. 1001, "the '502 patent"). Patent Owner Neodron Ltd. ("Neodron") filed a Preliminary Response ("Prelim. Resp."). Paper 8. By our authorization, Samsung filed a Reply limited to addressing issues that Neodron raised as to the requirement under 37 C.F.R. § 104(b)(3) to specify "[h]ow the challenged claim is to be construed." Paper 9. Neodron filed a similarly limited Sur-Reply. Paper 10.

We may institute an *inter partes* review only if "the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a) (2018). Applying that standard, we do not institute an *inter partes* review, for the reasons explained below.

II. BACKGROUND

A. Real Parties in Interest

The parties identify only themselves as real parties in interest. *See* Pet. 2–3; Paper 7, 1.

B. Related Proceedings

The parties identify the following as related matters: *Neodron Ltd. v. Amazon.com, Inc*., No. 1:19-cv-00898-ADA (W.D. Tex. filed June 28, 2019); *Neodron Ltd. v. Dell Technologies Inc.*, No. 1:19-cv-00819-ADA (W.D. Tex. filed June 28, 2019); *Neodron Ltd. v. HP Inc.*, No., 1:19-cv-00873-ADA (W.D. Tex. filed June 28, 2019); *Neodron Ltd. v. Samsung Electronics Co., Ltd.*, 1:19-cv-00903-ADA (W.D. Tex. filed June 28, 2019);

and *Neodron Ltd. v. Lenovo Group Ltd.*, 3:19-cv-05644-SI (N.D. Cal. filed Sept. 6, 2019). Pet. 3; Paper 7, 2.

C. THE '502 PATENT (EX. 1001)

The '502 patent describes "[a] capacitive position sensor for determining the position of an object along first and second directions." Ex. 1001, code (57). Figure 3 of the patent, reproduced below, depicts an embodiment of the invention:

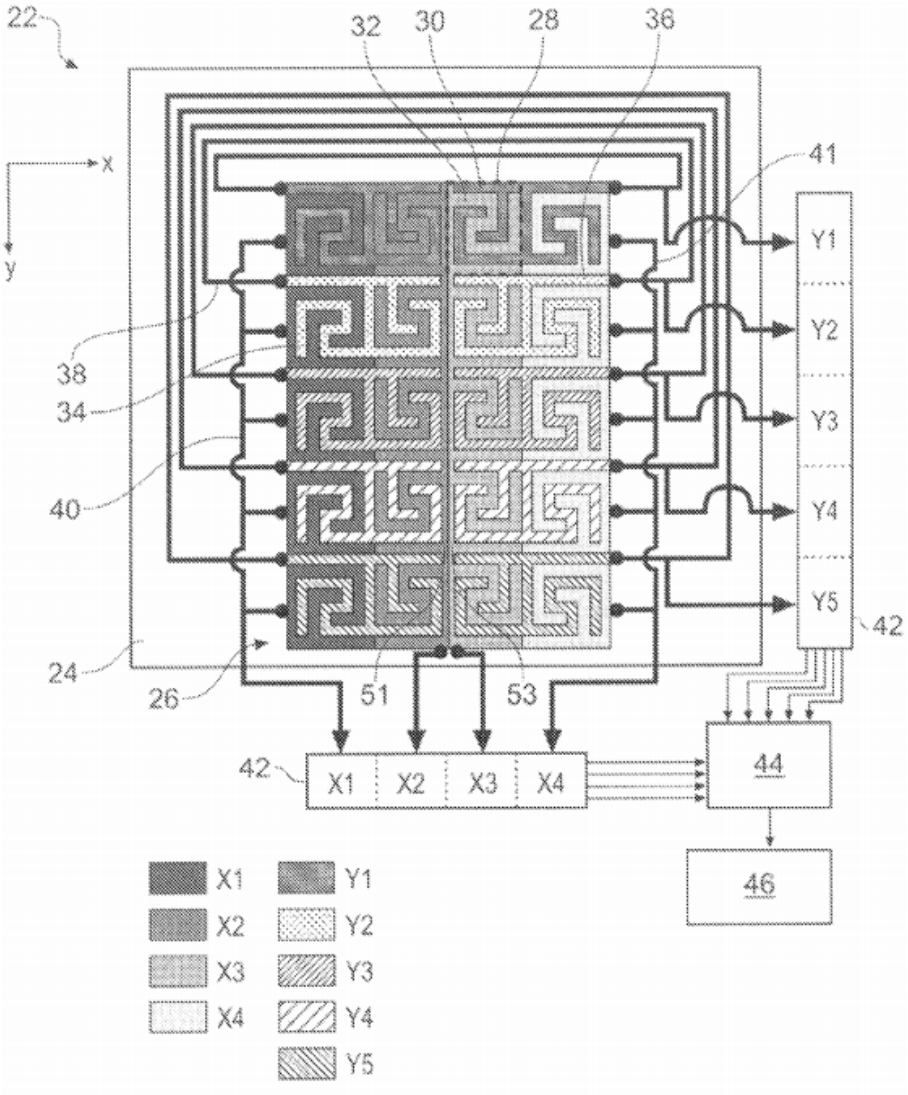


Fig. 3

Figure 3 is a schematic plan view of "a two-dimensional touch-sensitive capacitive position sensor 22." Ex. 1001, 5:37–38. Sensor 22 includes substrate 24, which has an arrangement of electrodes 26, which "define a sensing area within which the position of an object (e.g. a finger or stylus) adjacent the sensor may be determined." *Id.* at 5:45–47.

Electrodes 26 are divided into four columns (x1–x4) and five rows (y1–y5) of sensing cells 28. Ex. 1001, 5:58–60. The figure delineates one of these sensing cells 28, at the intersection of x3 and y1, with a dotted outline. *Id.* at 5:64–65. Each sensing cell 28 comprises "a row sensing electrode 30 and a column sensing electrode 32," which are "arranged within each sensing cell 28 to interleave with one another (in this case by squared spiraling around one another), but are not galvanically connected." *Id.* at 6:8–13. In this arrangement, "an object adjacent a given sensing cell can provide a significant capacitive coupling to both sensing electrodes irrespective of where in the sensing cell the object is positioned." *Id.* at 6:14–17.

In Figure 3, two of the sets of column sensing electrodes—those in columns x2 and x3—are connected to each other with spines 51 and 53, respectively. *See* Ex. 1001, 6:29–42. Each spine is a portion of the electrodes, deposited on the substrate, that runs vertically to connect each electrode in the column. *See id.* Some of the row sensing electrodes also connect to each other by a part of the electrodes deposited on the substrate inside the sensing area. *Id.* at 6:44–53. However, because spines 51 and 53 are in the way, all the row electrodes in each row cannot connect directly to each other within the sensor area. *Id.* at 6:53–59. "Thus a connection 38 between the row sensing electrodes at opposing ends of [row y1] (i.e. in

columns x1 and x4) is provided outside of the sensing area." *Id.* at 6:59–61. The two row sensing electrodes at opposing ends of each of rows y2–y5 are similarly connected by such "wrap-around connections" outside the sensing area. *Id.* at 6:67–7:3.

D. Challenged Claims and Asserted Ground of Unpatentability

Independent claim 1, which exemplifies the other challenged claims, is as follows:

> [1Pre] 1. A position sensor comprising:
> [1A] a substrate having a surface with an arrangement of electrodes mounted thereon,
> [1B] wherein the electrodes define an array of sensing cells arranged in columns and rows to form a capacitive sensing area of the sensor, each sensing cell including a column sensing electrode and a row sensing electrode, the column sensing electrodes of sensing cells in the same column being electrically coupled together and the row sensing electrodes of sensing cells in the same row being electrically coupled together, and
> [1C] wherein *row sensing electrodes of sensing cells at opposing ends of at least one of the rows are electrically coupled to one another by respective row wrap-around connections* made outside of the sensing area.

Ex. 1001, 12:12–26 (emphasis of key limitation added, and Samsung's reference letters added for each limitation). Claim 17 is also independent and is directed to a method of making a position sensor substantially the same as that of claim 1. *See id.* at 13:8–30. Claims 2–16 depend directly or indirectly from claim 1, and claims 17–21 depend from claim 17. *See id.* at 12:27–14:9.

Samsung argues four grounds for *inter partes* review, as summarized in the following table:

Claims Challenged	35 U.S.C. §	References
1–4, 9–18	103	Barkan,[1] Tagg[2]
5–7, 20	103	Barkan, Tagg, Marten[3]
8, 21	103	Barkan, Marten, Boie[4]
19	103	Barkan, Boie

Pet. 4. For Ground 1, Samsung alleges that claims 1–4 and 9–18 of the '502 patent are unpatentable under 35 U.S.C. § 103 as obvious over Barkan, either alone or in view of Tagg. *Id.* For Ground 2, Samsung alleges that claims 5–7 and 20 are obvious over Barkan, either alone, in view of Tagg, or in view of Marten. *Id.* For Ground 3, Samsung alleges that claims 8 and 21 are obvious over Barkan in view of Marten or in view of Marten and Boie. *Id.* For Ground 4, Samsung alleges that claim 19 is obvious over Barkan in view of Boie. *Id.*

The Petition relies on a declaration of Dr. Andrew Wolfe. Ex. 1002; *see also* Ex. 1003 (Dr. Wolfe's curriculum vitae). At this stage of the proceeding, Neodron does not contest Dr. Wolfe's qualification as an expert witness or provide a rebuttal expert.

III. ANALYSIS

Each ground in Samsung's Petition alleges that the challenged claims would have been obvious under 35 U.S.C. § 103. *See* Pet. 4. A claim is

[1] Barkan et al., US 3,757,322, issued Sept. 4, 1973 (Ex. 1004, "Barkan").
[2] Tagg et al., US 2003/0067451 A1, published Apr. 10, 2003 (Ex. 1007, "Tagg").
[3] Marten et al., US 2006/0017701 A1, published Jan. 26, 2006 (Ex. 1005, "Marten").
[4] Boie et al., US 5,463,388, issued Oct. 31, 1995 (Ex. 1006, "Boie").

unpatentable under § 103 if the differences between the claimed subject matter and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). We typically consider "whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.* at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). A sufficient ground for obviousness in a petition must "articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (citing *KSR*, 550 U.S. at 418); *see also* 35 U.S.C. § 322(a)(3) (2018); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4) (2019).

The obviousness inquiry requires an analysis of underlying factual considerations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) any objective indicia of obviousness or non-obviousness (i.e., secondary considerations) that may be in evidence.[5] *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Based on the evidence and arguments presented in Samsung's Petition, and in light of Neodron's Preliminary Response, we are unable to conclude that Samsung has demonstrated a reasonable likelihood of success on its obviousness grounds, for the reasons discussed below.

[5] Because neither party has presented evidence of objective indicia of obviousness or non-obviousness, we do not address this consideration in our decision. *See* Ex. 1002 ¶ 150 (Dr. Wolfe stating that no secondary indicia of obviousness "impact my opinion one way or another in terms of the obviousness of these claims in light of the art discussed").

A. LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the pertinent art at the time of the invention is one of the factual considerations relevant to obviousness. *See Graham*, 383 U.S. at 17. It is also pertinent to interpreting the patent claims, *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). To assess the level of ordinary skill, we construct a hypothetical "person of ordinary skill in the art," from whose vantage point we assess obviousness and claim interpretation. *See In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). This legal construct "presumes that all prior art references in the field of the invention are available to this hypothetical skilled artisan." *Id.* (citing *In re Carlson*, 983 F.2d 1032, 1038 (Fed. Cir. 1993)).

Citing testimony of Dr. Wolfe, Samsung argues that "a person of ordinary skill in the art ('POSITA') would have had a bachelor's degree in electrical engineering, computer science, physics, or the equivalent, plus at least two years of experience in the field of touch sensors or a related field." Pet. 10 (citing Ex. 1002 ¶ 33). Neodron does not dispute Samsung's assertion in its Preliminary Response.

We find that Samsung's proposed level of ordinary skill is consistent with the teachings of the '502 patent and the cited prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (holding that the prior art itself may provide evidence as to the appropriate level of ordinary skill). Therefore, we adopt Samsung's uncontested formulation as the level of ordinary skill for this decision.

B. CLAIM CONSTRUCTION

The Board interprets patent claims using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2019). Under this standard, we generally give claim terms their "ordinary and customary meaning . . . as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." *Id.* The ordinary and customary meaning is the meaning the claim language would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *See Phillips*, 415 F.3d at 1312–13.

Samsung contends that no claim term requires an explicit construction "[t]o resolve the particular grounds presented in this Petition" and that "no claim construction issues are believed to be dispositive as to grounds presented" in its Petition. Pet. 10–11 & n.2. Neodron does not propose any explicit constructions in its Preliminary Response. In light of the parties' arguments and evidence, we agree with Samsung that it is unnecessary to expressly construe any claim terms for our determination of whether to institute an *inter partes* review. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Nevertheless, the disclosure of the '502 patent informs our interpretation of the term "wrap-around connection" in the independent claims, and we will discuss that interpretation in the context of our analysis below.

A. COMPARISON OF THE CHALLENGED CLAIMS WITH THE PRIOR ART

1. Overview of Barkan

Barkan discloses a transparent touch-actuated interface that can be placed over a display to form a keyboard or touch screen. Ex. 1004, code (57), 4:37–50, 7:43–52. Barkan's Figure 23, reproduced below, illustrates an example of such an interface:

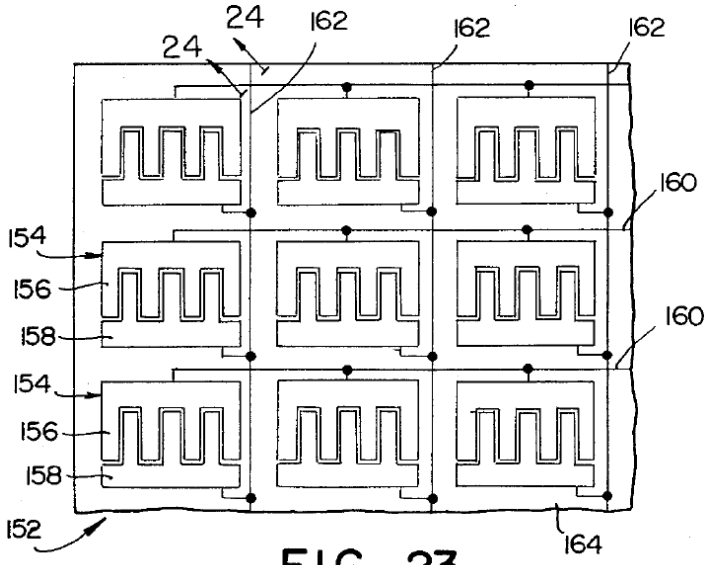


FIG. 23

Figure 23 is a fragmentary plan view of a portion of touch-sensitive overlay 152. Ex. 1004, 10:14–17, 27:1–2. The bottom and right of the figure are ragged to indicate that this is only a portion of overlay 152. *See id.* at 27:1–2; Pet. 27. Overlay 152 includes an array of transparent contact areas 154, each of which "is composed of two electrically and physically discrete contact sub-areas 156, 158." Ex. 1004, 27:5–6. Sub-areas 156 and 158 are interleaved, or interdigitated, so that when a person touches one of the sub-areas, they will also touch the other sub-area. *Id.* at 27:24–52. Transparent contact areas 154 "cover essentially the entire underlying visual display." *Id.* at 28:16–17.

According to Barkan, "[a]ll of the X contact sub-areas in any given X row are connected by a transparent electrically conductive lead 160," and the Y columns are similarly connected by transparent vertical lead 162. Ex. 1004, 27:53–57. Leads 160 and 162 "extend to the periphery of the transparent electrically non-conductive substrate or supporting panel 164." *Id.* at 27:58–59.

2. Overview of Tagg

Tagg discloses a touch screen with two sets of orthogonally arranged linear electrodes forming rows and columns. Ex. 1007 ¶¶ 201–202. Figure 23 of Tagg, below, shows this arrangement:

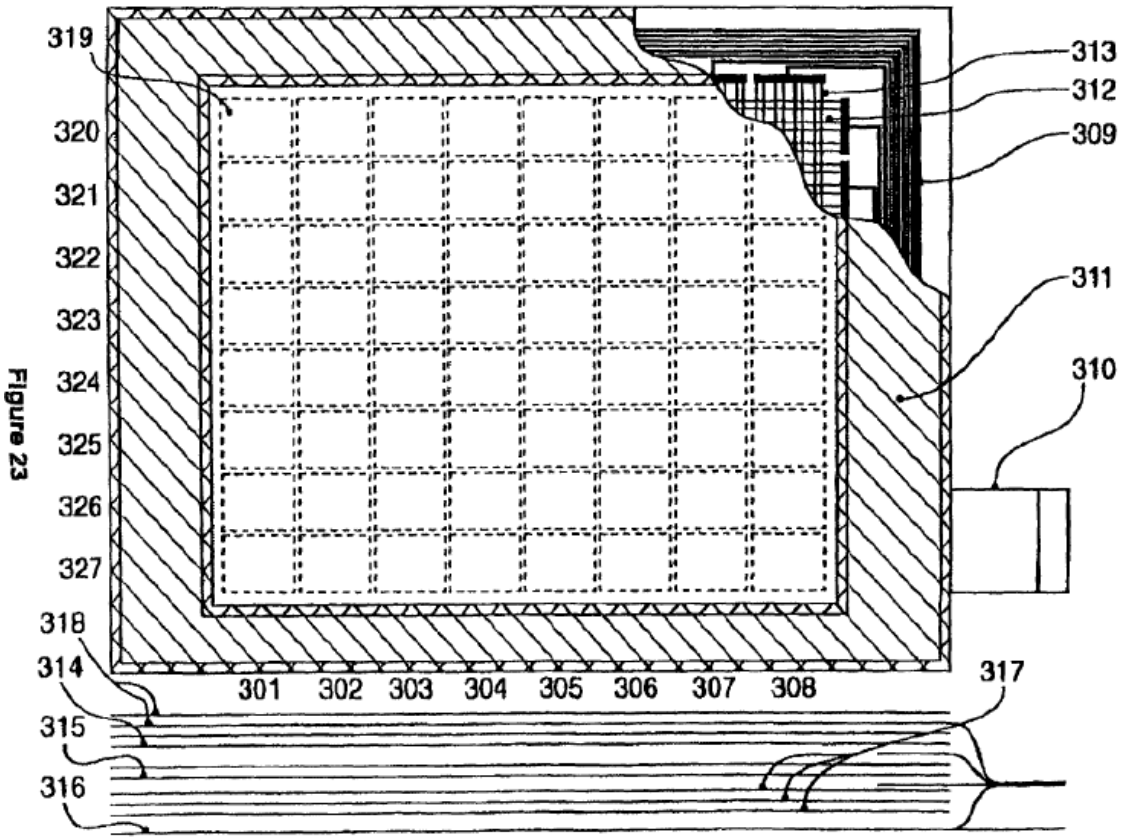


Figure 23

Figure 23 shows a touch screen with stacked layers including row layer 314 and column layer 315. Ex. 1007 ¶ 201. Row layer 314 and column layer 315

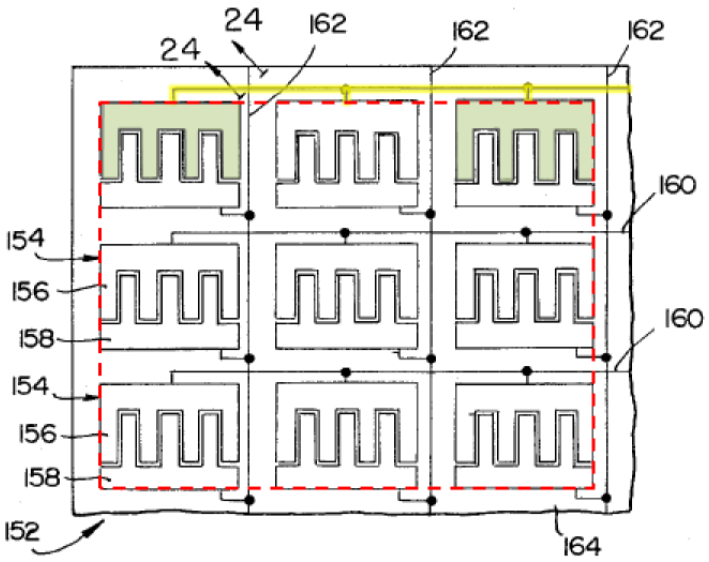
are each divided into eight "orthogonal capacitive zones formed by etching a transparent conductive sheet." *Id.* Each row and column capacitive sensor zone (320–327 and 301–308, respectively) is "formed from a number of thin strips shown at 312 & 313 (approx. 5 mm wide) with gaps between (approx. 5 mm wide), electrically connected together at each side of the screen" and then to wires 309 which connect to a 16-channel capacitance measuring device. *Id.* "The main reason for splitting the columns in thin strips is to provide gaps through which the row sensors can detect the finger." *Id.* Otherwise, the column layer "would completely shield the rows and no information would be picked up." *Id.*

3. Independent Claim 1

Limitations [1A] and [1B] of claim 1 recite a substrate with an array of sensing cells, "each sensing cell including a column sensing electrode and a row sensing electrode," and where "the column sensing electrodes of sensing cells in the same column [are] electrically coupled together and the row sensing electrodes of sensing cells in the same row [are] electrically coupled together." Ex. 1001, 12:12–22.

Samsung argues that in Barkan's Figure 23 (reproduced above and in annotated form below), a person of ordinary skill in the art "would have appreciated that the Y contact sub-areas [158] are 'column sensing electrodes' and the X contact sub-areas [156] are 'row sensing electrodes.'" Pet. 24–25 (citing Ex. 1002 ¶¶ 57–59). Samsung also argues that the column and row sensing electrodes are each electrically coupled together as recited in the claim, via transparent conductive leads 162 and 160, respectively. *See id.* at 24.

Limitation [1C] of claim 1 recites "wherein row sensing electrodes of sensing cells at opposing ends of at least one of the rows are electrically coupled to one another by respective row wrap-around connections made outside of the sensing area." Ex. 1001, 12:23–26. To illustrate its arguments regarding this limitation, Samsung provides an annotated version of Barkan's Figure 23, which is reproduced below:



Ex.-1004, Figure 23 (Annotated)

Pet. 26. The figure above is a version of Barkan's Figure 23 in which Samsung has added a red dashed box including all visible sensing cells 154, and most of connecting conductive leads 160 and 162, but excluding the uppermost row lead 160 (which Samsung has highlighted in yellow) and the right-most column lead 162.

Samsung argues that a person of ordinary skill in the art would have understood that highlighted lead 160 is a "wrap-around connection" because it "connects the X contact areas on the left and right ends of the uppermost row." *Id.* at 27. Samsung also argues that, because the uppermost lead 160 is outside the box that Samsung defines as the sensing area, this meets the

requirement of limitation [1C] that the wrap-around connection is "outside of the sensing area." *See* Pet. 26.[6]

Alternatively, Samsung argues that "Tagg discloses a touch screen with external wires that connect row sensing electrodes at opposing ends of each row." Pet. 28 (citing Ex. 1007 ¶ 201, Fig. 23). Samsung contends that in Tagg's Figure 23 (reproduced above), "[t]he opposing ends of the row electrodes are coupled via wires (309) that are routed outside the sensing area under the frame of the touch screen." *Id.* at 28–29 (citing Ex. 1007 ¶ 201, Fig. 23). Thus, Samsung argues, a person of ordinary skill in the art "would have understood that the wires (309) are 'row wrap-around areas made outside the sensing area.'" *Id.* at 30 (citing Ex. 1002 ¶¶ 63–64).

According to Samsung, a person of ordinary skill in the art would have been motivated to incorporate Tagg's external wires, connecting opposite ends of each row electrode, into Barkan's sensor overlay because "these connections would be beneficial in minimizing RC delay, and would thereby enable the use of lengthier columns and rows of electrodes." Pet. 21 (citing Ex. 1002 ¶ 51).

Among other arguments, Neodron contends Samsung has not shown that highlighted lead 160 in annotated Figure 23 of Barkan is a "wrap-

[6] Samsung also relies on Barkan's Figure 8 (not reproduced in this decision) for an alternative teaching that a connection can be "outside the sensing area." Pet. 27–28. Figure 8 shows a simple, two-row array in which all connections to the sensing electrodes are external to the array and pass through the device's supporting frame. Ex. 1004, 18:17–60. Because Samsung does not allege this specific embodiment constitutes a "wrap-around connection," and because we determine Samsung has not otherwise shown that Barkan teaches a wrap-around connection, we need not address this embodiment in our decision.

around connection." Prelim. Resp. 8. Instead of a wrap-around connection, Neodron argues that lead 160 "is merely another trace in the Barkan sensor design that connects the separate electrode elements together, without wrapping around anything, just like the other row electrode traces 160 and column electrode traces 162." *Id.*

We find Neodron's argument persuasive. Generally, the interpretation of a claim should give meaning to all the claim terms. *See Stumbo v. Eastman Outdoors, Inc.*, 508 F.3d 1358, 1362 (Fed. Cir. 2007) (stating that construing a claim term in a way that would render other terms superfluous is "a methodology of claim construction that this court has denounced." (citing *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) ("A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.")).

However, Samsung's application of limitation [1C] to Barkan fails to clearly assign any meaning to the term "wrap-around connection" that distinguishes that limitation from the requirement in limitation [1B] that "the row sensing electrodes of sensing cells in the same row [are] electrically coupled together." Ex. 1001, 12:20–22.

Samsung's stated reason for why the uppermost lead 160 of Barkan's Figure 23 is a "wrap-around connection" is because it "connects the X contact areas on the left and right ends of the uppermost row." *Id.* at 27. But this statement is true with respect to every other X contact area in Figure 23: each lead 160 connects each X contact area in a row to every other X contact areas in that row. Samsung has not sufficiently explained how any one of these connections is, specifically, a "wrap-around" connection.

Thus, we determine that Samsung does not adequately show that Barkan teaches or suggests a wrap-around connection as recited in limitation [1C] of claim 1.

Samsung's alternative argument is that Tagg discloses row wrap-around connections and that it would have been obvious to incorporate those connections into Barkan's panel design. *See* Pet. 21, 28–30. In response, Neodron argues that Samsung has provided insufficient evidence of how or why a person of ordinary skill in the art would have combined the two references. Prelim. Resp. 22–32. In particular, Neodron argues that there are fundamental differences between Barkan and Tagg, such as that in Tagg, the row and column electrodes are not mounted on the same substrate, and each row or column electrode spans across the entire width or length of the sensor area. *See* Prelim. Resp. 23–27. Neodron also argues that Dr. Wolfe's opinion as to why a person of ordinary skill in the art would have combined the two references is conclusory. *Id.* at 28–32.

We find Neodron's arguments persuasive. The only specific motivation Samsung has suggested for incorporating Tagg's external row connections into Barkan's sensor overlay is that "these connections would be beneficial in minimizing RC delay, and would thereby enable the use of lengthier columns and rows of electrodes." Pet. 21 (citing Ex. 1002 ¶ 51). However, neither Samsung nor Dr. Wolfe supports this conclusion with any evidence on the preliminary record. "To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (citing *KSR Int'l Co.*

v. Teleflex Inc., 550 U.S. 398, 418 (2007)); 35 U.S.C. § 322(a)(3) (requiring a petition to identify "with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim"). In addition, "[e]xpert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight." 37 C.F.R. § 42.65 (2019).

Dr. Wolfe does not explain how or why the combination of Barkan and Tagg would minimize RC delay or allow for the use of lengthier columns and rows of electrodes, or cite to any facts, data, or authorities to support that opinion. For example, there is no evidence in the record suggesting that RC delay was a recognized problem in touch-sensitive panels at the time of invention or that a person of ordinary skill in the art would have understood that a connection to both sides of a row of electrodes would be a solution to that problem. Nor does Dr. Wolfe provide any detail as to how a person of ordinary skill in the art would have modified Barkan's leads 160 to incorporate external connections such as those in Tagg. *See Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017) (holding an obviousness determination to be improper where the record lacked a "clear, evidence-supported account" of "*how* the combination of the two references was supposed to work").

Thus, we determine that Samsung does not provide sufficient evidence that a person of ordinary skill in the art would have had reason to modify Barkan's panel with external connections such as those disclosed in Tagg. Taking into consideration all the arguments and evidence of record, we determine that Samsung has not demonstrated a reasonable likelihood of

prevailing in showing that claim 1 is unpatentable as obvious over Barkan, either alone or in view of Tagg.

4. Independent Claim 17

Independent claim 17 includes limitations that are substantially similar to those of claim 1, and Samsung's arguments for the two claims are substantially the same. *Compare* Pet. 22–30, *with id.* at 43–54. In particular, claim 17 recites "using a wrap-around connection lying outside of the active sensing region." Ex. 1001, 13:20–21. As with claim 1, Samsung argues that a person of ordinary skill in the art would have understood the uppermost lead 160 in Barkan's Figure 23 to be a "wrap-around connection." Pet. 48–49.[7]

For the same reasons we have discussed above with respect to claim 1, we determine that Samsung has not demonstrated a reasonable likelihood of prevailing in showing that claim 17 is unpatentable as obvious over Barkan, either alone or in view of Tagg.

5. Dependent Claim 2–16, and 18–21

Because of their dependency from claims 1 or 17, dependent claims 2–16 and 18–21 also require a "wrap-around connection." Thus, for the same reasons given above with respect to claim 1, we determine that Samsung has not demonstrated a reasonable likelihood of prevailing in showing that claims 2–4, 9–16, and 18 are unpatentable as obvious over Barkan, either alone or in view of Tagg (Ground 1); that claims 5–7 and 20

[7] Unlike for claim 1, Samsung does not alternatively rely on Tagg as teaching a "wrap-around connection" with respect to claim 17. *See* Pet. 48–50.

are unpatentable as obvious over Barkan, either alone, in view of Tagg, or in view of Marten (Ground 2); that claims 8 and 21 are unpatentable as obvious over Barkan, either alone or in view of Marten or in view of Marten and Boie (Ground 3); or that claim 19 is unpatentable as obvious over Barkan in view of Boie (Ground 4). *See In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) ("Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.").

B. CONCLUSION

After considering the evidence and arguments presented in the Petition and Preliminary Response, including the testimony of Dr. Wolfe, we determine that Samsung has not demonstrated a reasonable likelihood of prevailing in proving that at least one challenged claim of the '502 patent is unpatentable. Therefore, we deny the Petition.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that the Petition is *denied*, and no trial is instituted.

For PETITIONER:

Marc Pensabene
Nicholas J. Whilt
O'MELVENY & MYERS LLP
mpensabene@omm.com
nwhilt@omm.com

James M. Heintz
Robert Buergi
DLA PIPER LLP
jim.heintz@dlapiper.com
robert.buergi@dlapiper.com

For PATENT OWNER:

Kent Shum
Neil A. Rubin
RUSS AUGUST & KABAT
kshum@raklaw.com
nrubin@raklaw.com