

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CYPRESS SEMICONDUCTOR CORP., and
STMICROELECTRONICS, INC.,
Petitioner,

v.

NEODRON LTD.,
Patent Owner.

IPR2021-01128
Patent 8,432,173 B2

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

QUINN, *Administrative Patent Judge*.

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

I. INTRODUCTION

Cypress Semiconductor Corp. and STMicroelectronics, Inc. (collectively “Petitioner”) filed a Petition (Paper 2, “Pet.”) under 35 U.S.C. §§ 311–319 for *inter partes* review of claims 1–3, 5–12, and 14–19 of U.S. Patent No. 8,432,173 B2 (Ex. 1001, “the ’173 patent”). Neodron Ltd. (“Patent Owner”) did not file a preliminary response.

At our discretion, we may institute an *inter partes* review when “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 institute an *inter partes* review of all asserted grounds and all challenged claims of the ’173 patent for the reasons explained below. This is a preliminary decision, and we will base our final written decision on the full trial record, including any timely response by Patent Owner.

II. BACKGROUND

A. REAL PARTIES IN INTEREST

Patent Owner identifies itself as a real party-in-interest (RPI). *See* Paper 3, 1. Petitioner identifies the captioned entities and also, for purposes of this proceeding and to avoid an RPI dispute, identifies related companies. Pet. 74–75.

B. RELATED PROCEEDINGS

The parties identify the following as related matters: *Neodron Ltd. v. STMicroelectronics, Inc.*, 6:20-cv-00560 (W.D. Tex.); *Neodron Ltd. v.*

Renesas Electronics Corp., No., 6:20-cv-00529 (W.D. Tex.); *Neodron Ltd. v. Texas Instruments Inc.*, 2:20-cv-00190 (E.D. Tex.); *Neodron Ltd. v. Cypress Semiconductor Corp.*, 6:20-cv-00523 (W.D. Tex.); and *In re Certain Touch-Sensing Systems, Capacitive Touch Sensing Controllers, Microcontrollers with Capacitive Touch Sensing Functionality, and Components Thereof*, Inv. No. 337-TA-1162 (“related ITC proceeding”). Pet. 3; Paper 3, 2.

C. THE '173 PATENT (EX. 1001)

The '173 patent relates to “capacitive position sensors for detecting the position of an object around a curved path.” Ex. 1001, 1:21–22. The sensor can operate in two modes. The first mode is shown in Figure 1, reproduced below:

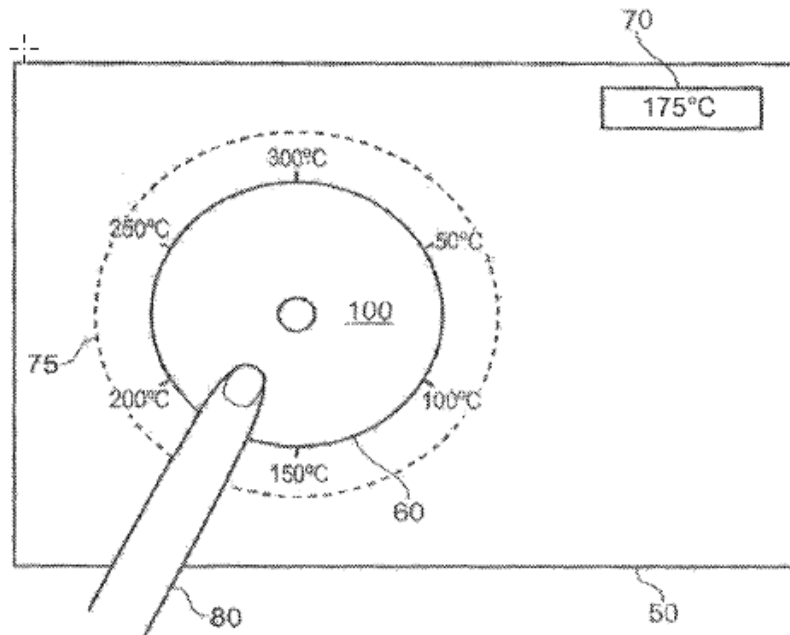


FIG. 1

Figure 1 shows “part of a control panel 50, having a capacitive sensor 60 and a digital readout display 70.” Ex. 1001, 7:38–39. As shown in the sensor’s first operating mode, “a user’s finger is used to select a cooking

temperature.” *Id.* at 7:61–63. Finger 80 is near a portion of sensing element 100 corresponding to a temperature of 175 °C, which also appears on readout display 70. *Id.* at 7:63–66.

Because the sensor resolution is limited, the initial temperature selected in the first operating mode may only be an approximation of the intended temperature. *See* Ex. 1001, 7:66–8:8. Therefore, the sensor automatically enters a second mode of operation to allow the user to fine-tune the selected temperature, as shown below in Figure 2A, reproduced below.

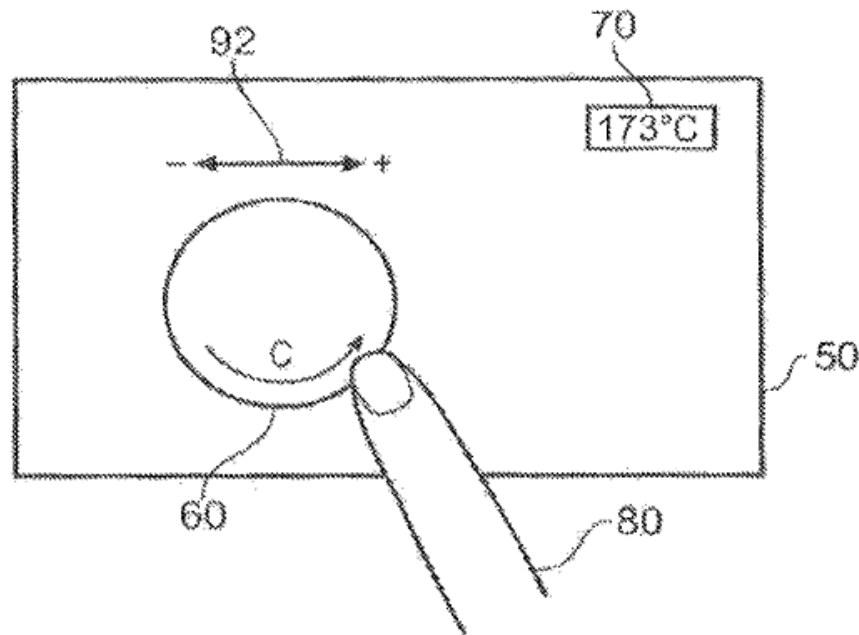


FIG. 2A

Ex. 1001, 8:9–10. Figure 2A depicts capacitive sensor 60 in a second operating mode. *Id.* at 8:10–12. In this mode, “a user is able to increase or decrease the temperature selected in the first mode by a pre-determined increment” by displacing finger 80 “by a pre-determined threshold angle.” *Id.* at 8:13–17. In this example, the user has rotated finger 80

counterclockwise, as represented by arrow C, to decrease the temperature from 175 °C to 173 °C, with the updated temperature shown on display 70. *See id.* at 8:21–27.

D. CHALLENGED CLAIMS AND ASSERTED GROUNDS

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

1. A method comprising:
 - receiving one or more first signals indicating one or more first capacitive couplings of an object with a sensing element that comprises a sensing path that comprises a length, the first capacitive couplings corresponding to the object coming into proximity with the sensing element at a first position along the sensing path of the sensing element
 - determining based on one or more of the first signals the first position of the object along the sensing path;
 - setting a parameter to an initial value based on the first position of the object along the sensing path, the initial value comprising a particular parameter value and being associated with a range of parameter values, the range of parameter values being associated with the length of the sensing path;
 - receiving one or more second signals indicating one or more second capacitive couplings of the object with the sensing element, the second capacitive couplings corresponding to a displacement of the object along the sensing path from the first position; and
 - determining based on one or more of the second signals the displacement of the object along the sensing path; and
 - adjusting the parameter within the range of parameter values based on the displacement of the object along the sensing path.

Ex. 1001, 9:37–62. Claims 10 (a computer-readable medium claim) and 19 (an apparatus claim) are also independent and recite substantively similar

limitations to those recited in claim 1. Claims 2, 3, and 5–9 depend from claim 1; and claims 11, 12, and 14–19 depend from claim 10. *See id.* at 9:63–12:29.

Petitioner asserts three grounds for *inter partes* review, as summarized in the following table:

Claims Challenged	35 U.S.C. §	References
1, 2, 8–11, 17–19	103	Trent ¹
1–3, 5–12, 14–19	103	Trent, Engholm ²
1–3, 5–12, 14–19	103	Bryan, ³ Trent, Engholm

Pet. 2. The Petition further relies on a declaration of Dr. Benjamin B. Bederson. Ex. 1002 (“Bederson Decl.”). Patent Owner has not submitted a preliminary response, and, therefore, Patent Owner has not, at this preliminary stage, contested Dr. Bederson’s testimony, or submitted rebuttal evidence.

III. ANALYSIS

For the reasons discussed below, we determine there is a reasonable likelihood that Petitioner would prevail in showing that at least one of claims 1–3, 5–12, or 14–19 is unpatentable under the grounds of the Petition. As a foundation for addressing those grounds in detail, we first address the level of ordinary skill in the art, and whether we need to construe claim terms for our analysis.

¹ Trent Jr., et al., US 2004/0252109 A1, published Dec. 16, 2004 (Ex. 1005, “Trent”).

² Engholm et al., US 6,229,456 B1, issued May 8, 2001 (Ex. 1006, “Engholm”).

³ Bryan, Jr., et al., US 5,559,301, issued Sept. 24, 1996 (Ex. 1007, “Bryan”).

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 v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). It is also relevant to how we construe 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)).

Petitioner proposes the same articulation of the level of ordinary skill in the art that the Administrative Law Judge adopted in the related ITC proceeding, which is as follows:

one of ordinary skill in the art would have had a bachelor’s degree in electrical engineering, computer engineering, computer science, or a related field, and at least two years of experience in the research, design, development, and/or testing of touch sensors, human-machine interaction and interfaces, and/or graphical user interfaces, and related firmware and software, or the equivalent, with additional education substituting for experience and vice versa.

Pet. 6; Ex. 1008, 8. Dr. Bederson agrees with it. *See* Pet. 6, Bederson Decl. ¶ 30.

This articulation of the level of ordinary skill is consistent with the problems and solutions in the ’173 patent and the prior art of record.

Therefore, we adopt the proposed articulation of the level of ordinary skill in the art for purposes of this decision.

B. CLAIM CONSTRUCTION

In an *inter partes* review, we construe a patent claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2019). This includes “construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.* We also consider “[a]ny prior claim construction determination concerning a term of the claim in a civil action, or a proceeding before the International Trade Commission, that is timely made of record” in this proceeding. *Id.* The ordinary and customary meaning of a claim term “is its meaning to the ordinary artisan after reading the entire patent,” and “as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1321 (Fed. Cir. 2005) (en banc).

Although a number of ’173 patent claim terms have been construed in the related ITC proceeding, Petitioner contends that we do not need to explicitly construe any claim terms. Pet. 6–7. In particular, the constructions for the selected terms in the related ITC proceeding are as follows, according to Petitioner.

Term	Construction
a sensing element that comprises a sensing path that comprises a length	a physical electrical sensing element made of conductive substances that comprises a path for sensing that is determined for each use that comprises a length

object	either an inanimate object, such as a wiper, pointer, or stylus, or alternatively, a human finger or other appendage any of whose presence adjacent the element will create a localized capacitive coupling from a region of the element back to a circuit reference via any circuitous path, whether galvanically or nongalvanically
displacement	distance and direction of movement

Pet. 6–7. Petitioner does not dispute these constructions (*id.*), which we find reasonable at this juncture. Therefore, we preliminarily adopt these constructions for purposes of institution.

C. GROUND 1: OBVIOUSNESS OVER TRENT

For Ground 1, Petitioner alleges that claims 1, 2, 8–11, and 17–19 of the '173 patent are unpatentable under 35 U.S.C. § 103 as obvious over Trent. Pet. 15–32. Having reviewed the Petition, we determine that Petitioner is reasonably likely to prevail in showing that at least one of claims 1, 2, 8–11, and 17–19 is unpatentable as obvious over Trent, for the reasons given below.

1. *Overview of Trent*

Trent discloses a “closed-loop sensor” as part of a user interface, which senses touch motions along a closed loop, to generate a signal that causes an action on a host device. *See* Ex. 1005 ¶ 73. An example of such a sensor is shown in Figure 36, below:

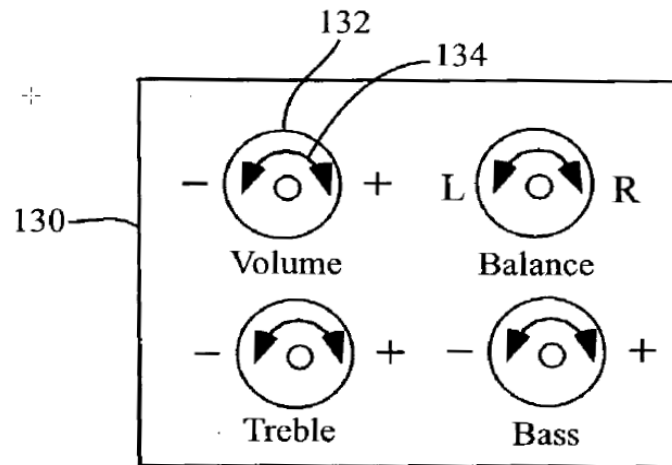


Fig. 36

Figure 36 shows “an object position detector 130 having four closed-loop sensors to vary the settings of audio controls.” Ex. 1005 ¶ 121. One of these is sensor 132, which controls the volume. *Id.* “[T]he motions (illustrated by arrow 134) of an input object on the volume control . . . 132 will cause the volume of the audio system to either increase or decrease.” *Id.*

2. *Independent claims 1, 10, and 19*

Independent claim 1, reproduced above, is a method claim. *See supra* part II.D. Independent claims 10 and 19 are substantially similar to independent claim 1, except that claim 10 is directed to a “computer-readable non-transitory storage media embodying logic that is operable when executed” to perform substantially the method of claim 1. Ex. 1001, 10:33–58. Claim 19 is directed to an apparatus for performing, substantially, the method of claim 1. *Id.* at 12:1–29. Petitioner’s arguments regarding the respective limitations of claims 1, 10, and 19 are substantially the same. *See*

Pet. 20–37. For ease of analysis, when we cite or refer specifically to claim 1’s limitations below, the discussion is also applicable to independent claims 10 and 19.

- (a) First Signal Limitation: “receiving one or more first signals indicating one or more first capacitive couplings of an object with a sensing element . . . the object coming into proximity with the sensing element at a first position along the sensing path of the sensing element”; and

The claims require receiving a first signal set indicating the capacitive couplings of an object (such as a finger) along a sensing path comprising a length, and using the first signal set to determine the object’s first position along the sensing path. *See* Ex. 9:38–46; 10:35–42, 12:2–13. According to Petitioner, Trent discloses a touch sensor that has a circular sensor path, and the recited “length” is the circumference of this circular path. *See* Pet. 17–18 (citing Ex. 1005 ¶¶ 23, 73, 76, 79–81, Figs. 4, 5; Bederson Decl. ¶¶ 81, 83, 85).

We find Petitioner’s arguments sufficiently persuasive, at this preliminary stage, to establish by a reasonable likelihood that Trent discloses the First Signals Limitation.

- (b) First Object Position Limitation: “determining based on one or more of the first signals the first position of the object along the sensing path”

Petitioner argues that Trent discloses a method of determining the position of the object along the sensor path using interpolation. Pet. 20 (citing Ex. 1005 ¶¶ 74, 80, 124–129, Fig. 40; Bederson Decl. ¶¶ 88–90).

According to Trent, the absolute position of the object can be reported as a single coordinate, and the relative positions (or motions) of the object can be reported in the same units (such as angular coordinates). Ex. 1005 ¶ 74.

We find Petitioner’s arguments sufficiently persuasive, at this preliminary stage, to establish by a reasonable likelihood that Trent discloses the First Object Position Limitation.

(c) The Setting Parameter Limitation

The claims require setting a parameter to an initial value based on the first position of the object along the sensing path. Ex. 1001, 9:47–48, *accord id.* at 10:43–44, 12:14–15. This initial value must comprise “a particular parameter value” and must be “associated with a range of parameter values, the range of parameter values being associated with the length of the sensing path.” *Id.* at 9:48–52; *accord id.* at 10:44–48, 12:15–19. We refer to this limitation as the “Setting Parameter Limitation.”

Petitioner contends that Trent discloses setting a parameter to an initial value. Pet. 21. According to Petitioner, “Trent discloses using ‘absolute’ positioning, corresponding to the precise location that a user touches the closed-loop sensor, to set an ‘initial value’ for a parameter in some modes.” *Id.* (citing Ex. 1005 ¶ 92 (“[I]t may occasionally be useful to use this absolute position (i.e., an exact starting point), for example, to indicate a starting value for a controlled parameter”)). In this mode of operation, according to Petitioner, Trent describes that a user may touch the sensor halfway, indicating that the starting value for volume would be 50%. *Id.* at 21–22. Thus, Petitioner argues, Trent’s range of parameter values is necessarily associated with the length of the sensing path. *Id.* at 22.

Further, to the extent the range of parameter values is not expressly or inherently taught by Trent, Petitioner argues that it would have been obvious to set a parameter to an initial value within a range that is associated with the length of the sensing path. *Id.* Relying on testimony of Dr. Bederson, Petitioner argues that a person of ordinary skill in the art would have had reason to combine the volume control knob of Trent’s Figure 36 (reproduced above in our overview of Trent) with functionality that sets the volume to an initial value as disclosed in Trent’s paragraph 92. Pet. 22 (citing Ex. 1005 ¶¶ 3, 4–11; Bederson Decl. ¶¶ 91–93). Petitioner also argues that Trent identifies, as part of the prior art “solutions” to the problem of the invention, a two-dimensional sensor in which users can slide their fingers to generate scrolling actions. *Id.* (citing Ex. 1005 ¶ 11). According to Dr. Bederson, a person of ordinary skill in the art would have understood that such a sensor would set a parameter to an initial value as recited in the claims. *See* Bederson Decl. ¶ 93.

We find Petitioner’s arguments, and Dr. Bederson’s supporting testimony on the above points, sufficiently persuasive at this preliminary stage to show by a reasonable likelihood that Trent discloses or teaches the Setting Parameter Limitation.

(d) The Second Signals Limitation

Claim 1 recites receiving “second signals indicating one or more capacitive couplings of the object with the sensing element.” Ex. 1001, 9:53–55, *accord id.* at 10:49–51, 12:20–22. These second capacitive couplings must “correspond[] to a displacement of the object along the sensing path from the first position.” *Id.* at 9:55–57; *accord id.* at 10:51–53, 12:22–24. We refer to this limitation as the “Second Signals Limitation.”

Petitioner argues that Trent teaches detecting the movement of the object with additional electrodes (second and third electrodes 32 and 33), which constitute the second capacitive couplings recited in the claims. Pet. 23 (citing Ex. 1005 ¶ 80, Fig. 4; Bederson Decl. ¶ 96). According to Petitioner, Trent teaches “the relative positions (or motions) can be reported in the same (such as angular) units as well.” *Id.* at 23 (quoting Ex. 1005 ¶ 74). Dr. Bederson opines that this angular relative position includes both a direction and a relative distance along the curved loop from the absolute position. Bederson Decl. ¶ 97 (stating that the ’173 patent also teaches measuring distance in angular units (citing Ex. 1005 ¶ 73)); Ex. 1001 4:21–58, 5:44–45 (disclosing examples in which the displacement is measured as an angle).

We find Petitioner’s arguments, and Dr. Bederson’s supporting testimony, sufficiently persuasive at this preliminary stage to show by a reasonable likelihood that Trent discloses or teaches the Second Signals Limitation.

(e) The Displacement Determination Limitation

Claim 1 recites “determining based on one or more of the second signals the displacement of the object along a sensing path.” Ex. 1001, *Id.* at 9:58–59; *accord id.* at 10:54–55, 12:25–26 (the “Displacement Determination Limitation”). Petitioner contends that “Trent discloses an algorithm for determining the distance and direction of motion (i.e. the claimed “displacement”) between two reported positions along the sensing path.” Pet. 25 (citing Ex. 1005 ¶ 134). Petitioner points to examples in Trent, including two flowcharts, that show how to determine relative angular movement, in positive or negative degrees (to indicate the direction of

movement), between an old position and a new position. *Id.* at 25–28 (citing Ex. 1005, ¶¶ 134, 139, Figs. 44, 45; Ex. Bederson Decl. ¶¶ 100–102).

We find Petitioner’s arguments, and Dr. Bederson’s supporting testimony, sufficiently persuasive at this preliminary stage to show by a reasonable likelihood that Trent discloses or teaches the Displacement Determination Limitation.

(f) The Adjusting Limitation

Claim 1 recites “adjusting the parameter within the range of parameter values based on the displacement of the object along the sensing path.” Ex. 1001, 9:60–55, *accord id.* at 10:49–51, 12:20–22 (the “Adjusting Limitation”). Petitioner argues that Trent discloses this limitation, in that, “in response to movement in clockwise or counter-clockwise directions, ‘the value of a setting’ can be correspondingly adjusted.” Pet. 28. Petitioner points to an example in Trent where movement in the clockwise direction generates a signal “that can cause the data, menu option, three dimensional model, or **value of a setting** to traverse in a particular direction,” and likewise, the value traverses in the opposite direction for counter-clockwise movement. *Id.* (quoting Ex. 1005 ¶ 73).

Petitioner also points to another example in Trent of measuring the angular difference between two points during traversal of the closed-loop path, and “the sign of this result is used to indicate the **direction of motion**, while the absolute **distance** is used to indicate the amount of motion.” Pet. 28–29 (quoting Ex. 1005 ¶ 139). Petitioner points out that, according to Trent, this example “results in a more natural feeling correspondence between the motion of the user’s input object and the corresponding **variation in the controlled parameter** (e.g., scrolling distance, menu

traversal, or setting value).” *Id.* (quoting Ex. 1005 ¶ 139). Thus, Petitioner contends that “Trent adjusts the parameter within the range of parameter values based on the displacement of the object.” *Id.* at 29 (citing Bederson Decl. ¶ 103).

We find Petitioner’s arguments sufficiently persuasive at this preliminary stage to show by a reasonable likelihood that Trent discloses or teaches the Adjusting Limitation. Thus, the preliminary evidence shows by a reasonable likelihood that Trent teaches each limitation of claims 1, 10, and 19. Petitioner has also shown, sufficiently for this preliminary stage, that a person of ordinary skill in the art would have had reason to combine the various embodiments in Trent to achieve the claimed inventions.

3. *Dependent claims 2, 8, 9, 11, 17, and 18*

The Petition analyzes each of dependent claims 2, 8, 9, 11, 17, and 18, and presents reasons why Trent discloses or teaches each limitation in these claims. *See* Pet. 30–32. At this preliminary stage, we find Petitioner’s contentions for each of these claims to be sufficiently persuasive to show by a reasonable likelihood that the claims are unpatentable as obvious over Trent as alleged.

4. *Preliminary conclusion regarding Ground 1*

For the above reasons, we determine that Petitioner is reasonably likely to prevail in showing that claims 1, 2, 8–11, and 17–19 of the ’173 patent are unpatentable under § 103 as obvious over Trent.

D. GROUND 2: OBVIOUSNESS OVER TRENT IN VIEW OF ENGHOLM

For Ground 2, Petitioner alleges that claims 1–3, 5–12, and 14–19 of the '173 patent are unpatentable under 35 U.S.C. § 103 as obvious over Trent in view of Engholm. Pet. 32–49. For the reasons given below, we determine that Petitioner is reasonably likely to prevail in showing that at least one of claims 1–3, 5–12, and 14–19 is unpatentable over Trent in view of Engholm.

1. *Overview of Engholm*

Engholm discloses a method “for facilitating user interaction with a measurement instrument,” that involves “display[ing] a control knob glyph corresponding to a user-adjustable parameter of the measurement instrument, the control knob glyph having an indicator and a partially circular drag area through which with the indicator can be rotated.” Ex. 1006, code (57). An example of such a glyph is shown in Figure 4b, below:

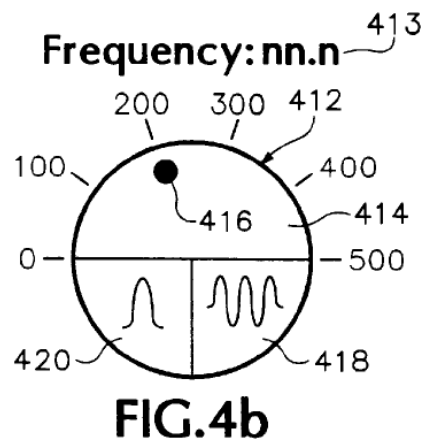


Figure 4b shows control knob glyph 412, which is “separated into two portions, a first including drag area 414 and indicator 416, and a second including an increment button 418 and decrement button 420. *Id.* at 6:37–40. A user can interactively rotate indicator 416 through drag area 414. *Id.*

at 6:40. “Moving indicator 416 in a counterclockwise manner decreases the current value being set by control knob glyph 412, while moving indicator 416 in a clockwise manner increases the current value.” *Id.* at 6:32–35.

2. *Motivation to combine Trent and Engholm*

Petitioner argues that Engholm provides additional teachings with respect to a closed-loop sensor, and that a person of ordinary skill in the art would have had reason to incorporate these teachings into Trent’s method and apparatus. Pet. 33–35 (citing Ex. Bederson Decl. ¶¶ 113–116). In particular, Petitioner argues, with supporting testimony from Dr. Bederson, that “one of skill in the art would have had a reasonable expectation of success” in combining the teachings of Trent and Engholm, because the solutions each contributes involve routine software functionality that is reasonably predictable to implement and amenable to simple substitution by those of skill in the art. Pet. 34–35 (citing Bederson Decl. ¶ 116).

On the record before us, we find Petitioner’s arguments, and Dr. Bederson’s supporting testimony, to be sufficiently persuasive at this preliminary stage.

3. *Independent claims 1, 10, and 19*

For Ground 2, Petitioner’s arguments with respect to the independent claims rely on substantially the same arguments as Ground 1, except for additional arguments regarding the Setting Parameter Limitation and the Adjusting Limitation. *See* Pet. 37–38.

Regarding the Setting Parameter Limitation, Petitioner argues that Engholm, like Trent, discloses “the range of parameter values being associated with the length of the sensing path.” *Id.* at 37–38. With

supporting testimony from Dr. Bederson, Petitioner contends that “one of skill in the art would have been motivated to combine, for example, the volume dial of Trent’s Figure 36 with the parameter mapping in Engholm, because it would allow a user to more easily determine the exact volume they initially selected when they touched the volume dial.” Pet. 38–39 (citing Ex. Bederson Decl. ¶ 128).

As to the Adjusting Limitation, Petitioner contends that, like Trent, “Engholm discloses ‘the control subsystem provides a control knob glyph on the display device corresponding to a **user-adjustable** parameter.’” Pet. 40 (citing Ex. 1006, 2:42–47).

We find Petitioner’s arguments sufficiently persuasive at this preliminary stage to show that Engholm teaches the Setting Parameter and Adjusting Limitations, and that a person of ordinary skill in the art would have had reason to combine these teachings with Trent’s method and sensor apparatus. Thus, the preliminary evidence is sufficient at this stage to show that Petitioner is reasonably likely to prevail in showing that claims 1, 10, and 19 are unpatentable as obvious over Trent in view of Engholm.

4. *Dependent claims 2, 3, 5–9, 11, 12, and 14–18*

The Petition analyzes each of dependent claims 2, 3, 5–9, 11, 12, and 14–18, and presents reasons why a combination of Trent and Engholm teaches each limitation in these claims. *See* Pet.40–49. At this preliminary stage, we find Petitioner’s contentions to be sufficiently persuasive to show by a reasonable likelihood that the dependent claims are unpatentable as alleged.

5. *Preliminary conclusion regarding Ground 2*

For the above reasons, we determine that Petitioner is reasonably likely to prevail in showing that claims 1–3, 5–12, and 14–19 of the ’173 patent are unpatentable under § 103 as obvious over Trent in view of Engholm.

E. GROUND 3: OBVIOUSNESS OVER BRYAN IN VIEW OF TRENT AND ENGHOLM

For Ground 3, Petitioner alleges that claims 1–3, 5–12, and 14–19 are unpatentable under § 103 as obvious over Bryan in view of Trent and Engholm. Pet. 49–67.

Because Petitioner has shown a reasonable likelihood of prevailing with respect to at least one claim of the ’173 patent, we will institute on all grounds and all claims raised in the Petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018); *AC Techs. S.A. v. Amazon.com, Inc.*, 912 F.3d 1358, 1364 (Fed. Cir. 2019) (“[I]f the Board institutes an IPR, it must . . . address all grounds of unpatentability raised by the petitioner.”).

Ground 3 asserts unpatentability of the same claims asserted collectively in Grounds 1 and 2. Therefore, at this stage of the proceeding, it is not necessary for us to provide an assessment of Ground 3. Nevertheless, we note that Petitioner provides a detailed explanation as to this ground, supported by Dr. Bederson’s testimony and specific citations to Bryan, Trent, and Engholm indicating where the references teach the limitations of claims 1–3, 5–12, and 14–19. *See* Pet. 49–67.

F. CONCLUSION

Based on the evidence available on the preliminary record, Petitioner has demonstrated a reasonable likelihood of success in showing that at least one of the challenged claims of the '173 patent are unpatentable on the grounds raised in the Petition.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–3, 5–12, and 14–19 of the '173 patent is instituted with respect to the grounds set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, *inter partes* review of the '173 patent commences on the entry date of this Order, and notice is hereby given of the institution of a trial.

IPR2021-01128
Patent 8,432,173 B2

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