

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

POWER2B, INC.,
Patent Owner.

IPR2021-01190
Patent 10,156,931 B2

Before BARBARA A. PARVIS, SHEILA F. McSHANE, and
JOHN D. HAMANN, *Administrative Patent Judges*.

McSHANE, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–3, 6–15, and 18–21 of U.S. Patent No. 10,156,931 B2 (Ex. 1001, “the ’931 patent”), along with the supporting Declaration of Benjamin B. Bederson, Ph.D. Paper 3 (“Pet.”); Ex. 1002. Power2B, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 8 (“Prelim. Resp.”).

We have authority under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . 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.”

For the reasons that follow, we determine that Petitioner has demonstrated that there is a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the challenged claims. For the reasons set forth below, and pursuant to 35 U.S.C. § 314, we institute *inter partes* review of claims 1–3, 6–15, and 18–21 of the ’931 patent.

B. *Related Matters*

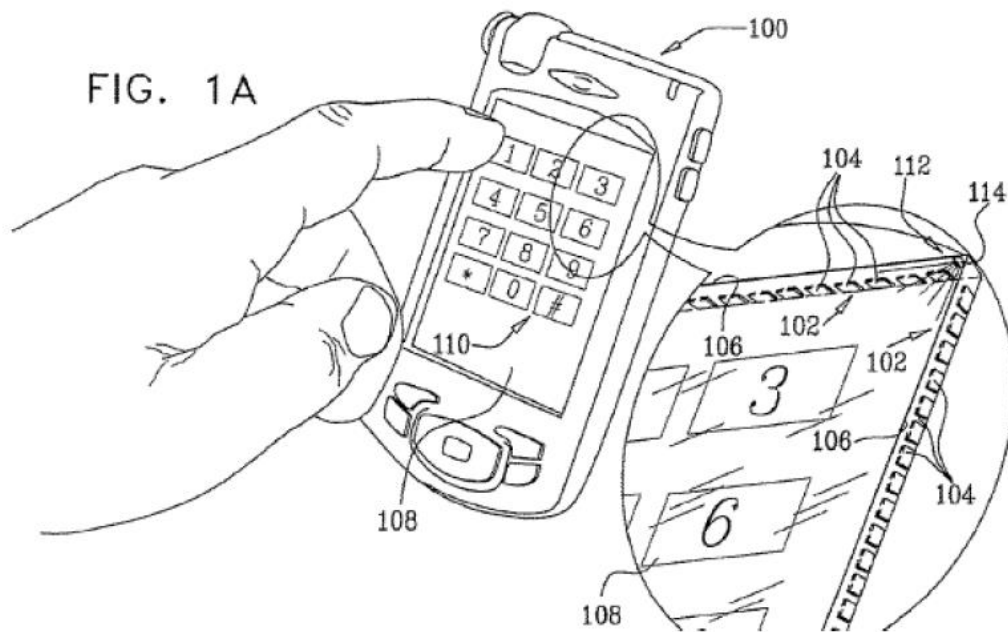
The parties identify a related litigation, *Power2B, Inc. v. Samsung Electronics Co., Ltd.*, Case No. 6:20-cv-01183-ADA (W.D. Tex.) (“the district court proceeding”). Pet. 2; Paper 5, 2.

C. *The ’931 Patent*

The ’931 patent is titled “Displays and Information Input Devices” and issued on December 18, 2018, from an application filed on November 3, 2016. Ex. 1001, codes (22), (45), (54). The application for the ’931 patent

is a continuation of U.S. Patent Application No. 12/066,238, now U.S. Patent No. 9,494,972, and Provisional Applications No. 60/734,027 and No. 60/715,546. *See id.*, codes (60), (63).

The '931 patent is directed to an integrated display and input device such as, for instance, a mobile telephone having a touch responsive input functionality utilizing light reflection. Ex. 1001, code (57), 1:37–38, 7:58–61, 8:26–29. More specifically, the '931 patent describes devices with a display having a light beam with responsive input functionality. *Id.* at 7:58–61. Figure 1A, reproduced below, depicts an embodiment of an integrated display and input device. *Id.* at 6:11–14.



As shown in Figure 1A, above, this embodiment is a mobile phone with arrays 102 of light detector elements 104 arranged along edge surfaces 106 of a viewing plain overlaying keyboard template display 110. Ex. 1001, 7:61–64. Light, including in the infrared (IR) band, is reflected from a

user's finger or stylus, that is, for instance, touching or located in propinquity to plate 108. *Id.* at 8:7–10. The source of the light to be reflected may be from sources external to the mobile phone, such as sunlight, or may be an illumination subassembly, such as single IR emitting LED 114. *Id.* at 8:13–20.

Figure 2A, reproduced below, illustrates an embodiment depicting an integrated display and input device. Ex. 1001, 6:16–17.

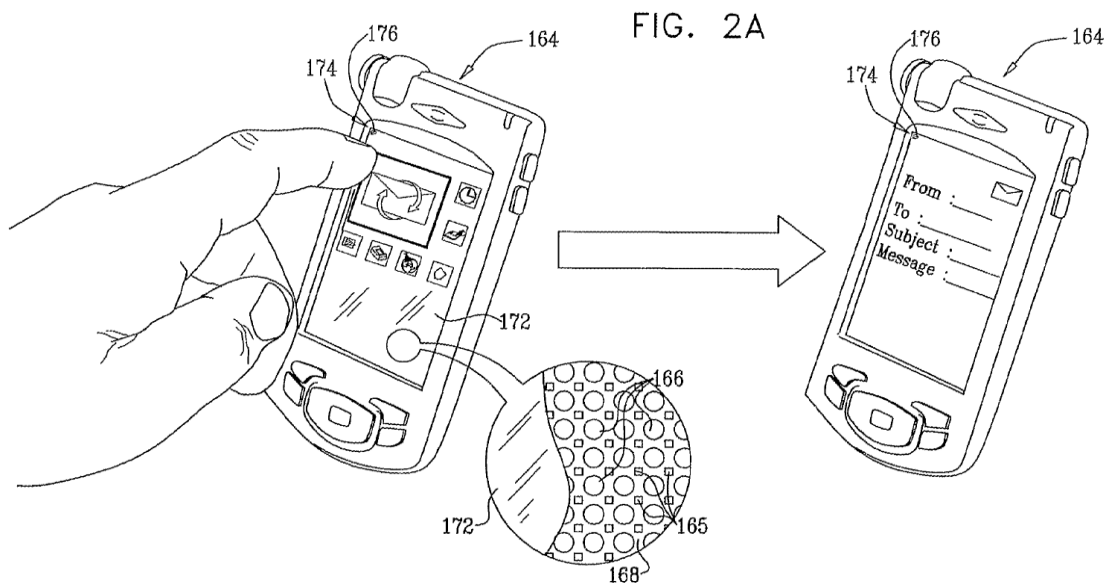


Figure 2A, above, illustrates launching an application, such as an e-mail application, by employing object detection functionality. Ex. 1001, 9:32–35. Figure 2A depicts light detector elements 165 interspersed among light emitters 166 arranged in plane 168. *Id.* at 9:39–41. Light reflected by the user's finger propagates through cover layer 172 and is detected by detector elements 165. *Id.* at 9:45–48. Detector analyzing processing circuitry operates to receive detector outputs of individual detectors in the arrangement and determines whether the amount of radiation detected exceeds a threshold. *Id.* at 2:60–64. “The outputs of detector elements 165

are processed to indicate one or more of the X, Y, or Z positions and/or angular orientation of the user's finger.” *Id.* at 9:48–51. The detected position is used to launch an application or control other functionalities. *Id.* at 9:51–54.

Challenged claims 1, 13, and 21 are independent. Claim 1 of the '931 patent is illustrative and is reproduced below, with bracketed letters added to the limitations for reference purposes.

1. A device comprising:

[a] a display panel having a pixel array that defines a display area, the pixel array is configured to visually present digital content;

[b] an Infra-Red (IR) emitter positioned proximate to the display area, the IR emitter illuminating one or more objects in proximity to the device;

[c] a position sensing array positioned proximate to at least one edge of the display area, the position sensing array is configured to receive, through at least one layer of the display panel, at least a portion of light reflected by an object in proximity to the device and generate an output signal that represents an amount of the portion of light; and

[d] a processing unit configured to:

receive the output signal from the position sensing array;

[e] determine the output signal exceeds a predetermined threshold;

[f] calculate, based on the output signal, a position of the object relative to the device when the output signal exceeds the predetermined threshold; and

[g] execute input functionality corresponding to the position of the object.

Ex. 1001, 45:44–67 (brackets added).

D. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims of the '931 patent on the following grounds:

Claims Challenged	35 U.S.C. §	Reference(s)
1, 3, 6–13, 15, 18–21	103(a) ¹	Gettemy ² , Philipp ³
2, 14	103(a)	Gettemy, Philipp, Carstedt ⁴

More specifically, Petitioner identifies the challenges to claims 1, 3, 6–13, 15, and 18–21 on the basis of Gettemy alone or Gettemy in view of Philipp (Grounds 1 and 2, respectively), and the challenges to claims 2 and 14 on the basis of Gettemy in view of Carstedt or Gettemy and Philipp in view of Carstedt (Grounds 3 and 4, respectively). Pet. 3–4.

II. DISCRETIONARY DENIAL UNDER §§ 314 (a), 325(d)

A. § 314(a)

Patent Owner requests that we exercise our discretion under 35 U.S.C. § 314(a) to deny institution in view of the parallel district court proceeding. Prelim. Resp. 33–42. Patent Owner brought that proceeding in the Western District of Texas on December 23, 2020, asserting that Petitioner infringes the '931 patent. *Id.* at 33.

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103, and was effective on March 16, 2013. Although Petitioner takes no position on the priority date for each claim of the '931 patent, the Petition uses the September 8, 2005 date of the earliest provisional patent application, Provisional Application No. 60/734,027. *See* Pet. 10. We therefore refer to the pre-AIA version of 35 U.S.C. § 103.

² U.S. Publication No. 2003/0156100 A1 (published August 21, 2003). Ex. 1005.

³ U.S. Patent No. 4,879,461 (issued November 7, 1989). Ex. 1006.

⁴ WO 86/00447 (published January 16, 1986). Ex. 1007.

Under Section 314(a), the Director has discretion to deny institution. *See* 35 U.S.C. § 314(a) (stating “[t]he Director *may not* authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition . . . 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”) (emphasis added); 37 C.F.R. § 42.108(a) (stating “the Board will authorize the review to proceed”); *cf. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”); *Harmonic Inc. v. Avid Tech, Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”).

In determining whether to exercise that discretion on behalf of the Director, we refer to the precedential decision in *NHK Spring Co. v. Intriplex Techs., Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential) (“*NHK*”). In *NHK*, the Board considered the “advanced state of the district court proceeding” as a “factor that weighs in favor of denying” the petition under § 314(a). *NHK*, Paper 8 at 20. More specifically, it considered an early trial date as part of a “balanced assessment of all relevant circumstances in the case, including the merits.” Consolidated Trial Practice Guide November 2019 (“CTPG”), *available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated>, 58.

The Board’s precedential decision in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”) sets forth six factors that we consider as part of this balanced assessment when determining whether to use our discretion to deny institution:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

Fintiv at 6. Recognizing that “there is some overlap among these factors” and that “[s]ome facts may be relevant to more than one factor,” the Board “takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.* We now apply these six factors to the facts and circumstances present here.

1. Factor 1—Stay of Related Litigation Proceeding

Under the first *Fintiv* factor, we consider “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.” *Id.* Patent Owner contends that this factor, whether a stay has been granted, weighs in favor of denial. Prelim. Resp. 35–36. Patent Owner asserts that, although Petitioner has not moved for a stay, if Petitioner were to move for a stay, it would be denied in view of Patent Owner's opposition and Judge Albright's record in refusing these requests. *Id.* Petitioner argues that the Board should not speculate on the outcome of any motion, and this factor should be considered to be neutral. Pet. 67.

We decline to speculate, based on the record in this proceeding, whether the district court would grant a stay in the parallel litigation pending this proceeding. Notably, neither party identifies any statements by the district court or other evidence that specifically addresses a stay in the parallel district court proceeding. *See* Prelim. Resp. 35–36; Pet. 67. And “[a] judge determines whether to grant a stay based on the facts of each specific case as presented in the briefs by the parties.” *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) (“*Fintiv II*”). “We decline to infer, based on actions taken in different cases with different facts, how the [d]istrict [c]ourt would rule should a stay be requested by the parties in the parallel case here.” *Id.* Accordingly, we determine that this factor is neutral.

2. Factor 2—Proximity of Court’s Trial Date

Under the second *Fintiv* factor, we consider the “proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision.” *Fintiv*, Paper 11 at 6. The parties submitted November 21, 2022, as the proposed date for trial upon a request from the District Court indicating that this estimated trial date was to be used. Ex. 2003, 10; Ex. 1021; Pet. 68; Prelim. Resp. 37.

Petitioner asserts that the trial date is only an estimate. Pet. 68. Petitioner contends that, even if the estimated date were held to, the timing does not tip in favor of denying institution. *Id.* Petitioner argues that if this proceeding is instituted, the final written decision should issue in January, 2023, which is within a few months of a district court trial. *Id.* at 68–69. Petitioner asserts that, under the weight of current Board cases, this timing “weighs only slightly in favor of denial.” *Id.* at 69 (citing *Hulu, LLC v.*

SITO Mobile R&D IP, LLC, IPR2021-00298, Paper 11 at 10–12 (PTAB May 19, 2021); *Facebook, Inc. v. USC IP P’ship, L.P.*, IPR2021-00033, Paper 13 at 12, (PTAB Apr. 30, 2021); *Dish Network L.L.C. v. Broadband iTV, Inc.*, IPR2020-01280, Paper 17 at 17, n.4 (PTAB Feb. 4, 2021); *Apple Inc. v. Koss Corp.*, IPR2021-00305, Paper 14 at 13–14 (PTAB, June 3, 2021)).

Patent Owner contends that it expects that the District Court will set the trial date on or near November 21, 2022. Prelim. Resp. 37. Patent Owner argues that the Board has weighed this factor in favor of discretionary denial when a trial was scheduled two months before the expected statutory deadline. *Id.* (citing *Fintiv II*, Paper 15 at 13). Further, Patent Owner asserts that the Board “generally take[s] courts’ trial schedules at face value absent some strong evidence to the contrary,” and this factor favors denial of the institution. *Id.* at 37–38 (quoting *Fintiv II*, Paper 15 at 12–13).

Here, we recognize that a potential trial date is eleven months off and there can be changed circumstances in the interim time before trial. Further, factor 2 is the *proximity* of the court’s trial date to the Board’s projected statutory deadline for a final written decision, and here the time difference is only two months. Factoring in the potential for changed circumstances in view of the close proximity of the dates, we determine that this factor weighs only slightly in favor of exercising our discretion to deny institution.

3. Factor 3—Investment in the Parallel Proceeding

Under the third *Fintiv* factor, we consider the “investment in the parallel proceeding by the court and the parties.” *Fintiv*, Paper 11 at 6. Petitioner asserts that there has been minimal development of the District

Court case, and, in discovery, no depositions have yet been taken and expert discovery has not begun. Pet. 69. Petitioner asserts that there have been no substantive orders in the case, and the most cost intensive period in the district court case will occur after the institution decision. *Id.* at 69–70.

In addition, Petitioner argues that Patent Owner asserted five patents in its complaint against Petitioner, containing over 200 claims, and, in response, Petitioner diligently prepared its *inter partes* petitions. Pet. 71. Petitioner asserts that it filed its respective petitions many months before the statutory deadline, and less than two months after receiving preliminary infringement contentions. *Id.* at 70. Petitioner contends that its diligence weighs against the exercise of discretion. *Id.*

Patent Owner asserts that the District Court will have already conducted a claim construction hearing and issued a claim construction order prior to the institution decision date in this proceeding and fact discovery will have commenced. Prelim. Resp. 38–39. Patent Owner also contends that substantial resources have already been invested, as evidenced by the exchange of infringement and invalidity contentions and claim construction briefing. *Id.* at 39.

We determine that the third *Fintiv* factor favors not exercising our discretion to deny institution. The District Court conducted a *Markman* hearing on October 19, 2021, and issued a claim construction order on November 11, 2021. Ex. 1034. However, fact discovery is not set to close until June 20, 2022, and expert discovery is not set to close until August 15, 2022. Ex. 2003. There is still a substantial amount of work to be completed by both the parties and the district court as to issues of unpatentability. Further, we agree that Petitioner has acted diligently in filing the Petition

less than two months after receiving preliminary infringement contentions, which also weighs against the exercise of our discretion to deny institution.

4. Factor 4—Overlap With Issues Raised in Parallel Proceeding

Under the fourth *Fintiv* factor, we consider the “overlap between issues raised in the petition and in the parallel proceeding.” *Fintiv*, Paper 11 at 6. Petitioner has stipulated that “Petitioner will not pursue invalidity against the asserted claims of the [’]931 patent in the District Court proceeding captioned above using any obvious ground which includes the primary reference in that petition, referred to herein as ‘Gettemy.’” Ex. 1022; *see also* Pet. 72 (citing same). Petitioner also argues that it is challenging more claims than those asserted in the district court proceeding, and the District Court will not address the invalidity of 14 of 21 claims. *Id.* at 73.

Patent Owner contends this factor favors denial of institution because the prior art references advanced in the Petition are the same as those advanced in the district court proceeding. Prelim. Resp. 40. Patent Owner argues that Petitioner’s stipulation does not avoid duplication in the district court proceeding. *Id.* In particular, Patent Owner asserts that Petitioner’s stipulation in this proceeding is limited to only “obvious ground[s] which includes . . . Gettemy,” but “reserves the right to present invalidity in District Court on other bases,” which would include the use of Gettemy on anticipation grounds. *Id.* Patent Owner contends that in the district court litigation, Petitioner has asserted anticipation by Gettemy as a basis of invalidity. *Id.* (citing Ex. 2009, 64). Patent Owner argues that the stipulation does not encompass any other ground that was raised or could

have been raised in an *inter partes* review. *Id.* at 41 (citing *Sand Revolution II, LLC v. Continental Intermodal Grp.–Trucking LLC*, IPR2019-01393, Paper 24 at 12, n.5 (PTAB June 16, 2020) (Institution Decision) (informative) (“*Sand*”). Patent Owner argues that this factor favors denial of institution because the stipulation does not avoid duplication of effort, and because Petitioner indicates an intent to have duplicative efforts.

Concerns about the degree of overlap may be mitigated where a petitioner agrees not to pursue in the parallel district court litigation the grounds advanced in the petition. *Sand*, Paper 24 at 11–12. Petitioner’s stipulation here has similarities to the stipulation in the informative *Sand* case, which states “[t]o eliminate any doubt as to overlap between the proceedings, Petitioner . . . stipulate[s] . . . that, if the IPR is instituted, Petitioner will not pursue the same grounds in the district court litigation.” *Compare* Ex. 1022, with *Sand* at 11–12. Namely, Petitioner’s stipulation reduces duplication in the district court proceeding for the grounds asserted here. Additionally, Petitioner’s stipulation is also broader than the *Sand* stipulation because Petitioner waives any obviousness assertion that includes Gettemy. Accordingly, following *Sand*’s reasoning, Petitioner’s stipulation here “mitigates to some degree the concerns of duplicative efforts between the district court and the Board, as well as concerns of potentially conflicting decisions.” *Sand* at 12. Thus, this factor weighs at least slightly in favor of not exercising discretionary denial. *Id.*

5. Factor 5—Commonality of Parties in Parallel Proceedings

Under the fifth *Fintiv* factor, we consider “whether the petitioner and the defendant in the parallel proceeding are the same party.” *Fintiv*, Paper 11 at 6. Here, Petitioner is the defendant in the district court

proceeding. Prelim. Resp. 41. We determine that this factor at least slightly favors discretionary denial, given the close proximity of the expected trial date and the Board’s projected statutory deadline for a final written decision.

6. *Factor 6—Other Circumstances*

Under the sixth *Fintiv* factor, we consider “other circumstances that impact the Board’s exercise of discretion, including the merits.” *Fintiv*, Paper 11 at 6. Petitioner argues that the Petition has strong merits. Pet. 74–75. Patent Owner contends that the merits are weak. Prelim Resp. 42. More specifically, Patent Owner asserts that “with regards to the limitation that the IR emitter be positioned proximate to the display area the Petition acknowledges that the prior art at most teaches the IR emitter is ‘in the display area’ rather than proximate to the display area.” *Id.*

As discussed below, we have reviewed Petitioner’s unpatentability arguments and Patent Owner’s preliminary responses, and based on the record before us, we disagree with Patent Owner that the merits are weak. Rather, at this stage of the proceeding, we find that Petitioner has shown at least a reasonable likelihood of success on the merits, and, further, Petitioner’s showing is sufficiently strong so as to weigh against exercising discretion to deny under factor 6. *See Fintiv*, Paper 11 at 14–15 (noting that the merits favor institution under factor 6 “if the merits of a ground raised in the petition seem particularly strong.”). On the issue of the Petition’s alleged failure to teach an IR emitter positioned proximate to the display area, Patent Owner refers to only one basis for Petitioner’s assertions, but the Petition also includes other bases, which we find to have merit, as discussed below.

Accordingly, we determine that this factor weighs in favor of not exercising discretionary denial.

7. Conclusion

On this record, after weighing all of the factors and taking a holistic view, we determine that the facts in this case weighing against exercising discretion outweigh the facts that favor exercising discretion. Thus, based on our assessment of the *Fintiv* factors, we decline to exercise our discretion under 35 U.S.C. § 314(a) to deny *inter partes* review.

B. § 325(d)

Institution of *inter partes* review is discretionary. *See Harmonic Inc. v. Avid Tech, Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”); 35 U.S.C. § 314(a). Pursuant to 35 U.S.C. § 325(d), in determining whether to institute an *inter partes* review, “the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.” In evaluating arguments under § 325(d), we use

[a] two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential) (“*Advanced Bionics*”); *see also Becton, Dickinson & Co. v. B. Braun*

Melsungen AG, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to Section III.C.5, first paragraph) (listing factors to consider in evaluating the applicability of § 325(d)) (“*Becton Dickinson*”).

Patent Owner contends that we should deny the Petition under § 325(d) because Gettemy was previously before the Patent Office. Prelim. Resp. 21. More specifically, Patent Owner asserts that Gettemy was listed in an Information Disclosure Statement (IDS), with the Examiner’s express consideration of the references indicated by a signature. *Id.* at 21 (citing Ex. 1004, 950). Patent Owner argues that Petitioner relies upon Gettemy as the primary reference in its challenges for all of the four grounds that are asserted, including the first ground, which relies on Gettemy alone to teach the limitations of the claims. *Id.* at 22. Patent Owner asserts that Philipp is relied upon to teach only one limitation of the independent claims in the second ground, and the Board would have to reevaluate Gettemy as part of the analysis. *Id.* at 22–23. Patent Owner also asserts that the third and fourth grounds are directed to dependent claims, and Petitioner’s reliance on Carstedt is insufficient to overcome the first prong of *Advanced Bionics* because the Board would still be required to reconsider Gettemy. *Id.* at 23.

Petitioner argues that the first prong of *Advanced Bionics* is not met because two of the three references relied upon in the Petition, Philipp and Carstedt, were not before the Examiner during prosecution. Pet. 20. Petitioner asserts that the primary reference relied upon by the Examiner during prosecution, Omura, was a very different system than any of the other references relied upon in the Petition. *Id.* at 21. Petitioner contends that because the first *Advanced Bionics* prong is not met, the second prong need not be reached. *Id.*

Here, the Petition relies upon Gettemy alone in its challenges to all the independent claims, as well as in the majority of the dependent claims of the '931 patent that are challenged. Pet. 25–60. As such, we agree with the Patent Owner that Gettemy is the primary reference relied upon in the Petition, with reliance on Philipp only in the alternative and with reliance on Carstedt limited to the challenge to two dependent claims. Further, it is undisputed that Gettemy was before the Examiner during the prosecution of the '931 patent. Ex. 1004, 950. As such, the record supports that the same art, Gettemy, which is the primary art relied upon in the Petition, was previously presented to the Office, and, therefore, the first prong of *Advanced Bionics* is met.

Turning to the second prong of *Advanced Bionics*, Petitioner argues that that institution should not be denied under § 325(d) because the Examiner made a material error in overlooking Gettemy. Pet. 21. More specifically, Petitioner asserts that the Examiner erred by overlooking “the clear and unambiguous teaching of Gettemy.” *Id.* at 22 (citing Ex. 1002 ¶ 38). Petitioner refers to, as one example, the limitation “receive, through at least one layer of the display panel, at least a portion of light reflected by an object in proximity to the device,” an amendment that resulted in allowance, which is disclosed by Gettemy. *Id.* at 22–23. In support, Dr. Bederson testifies that

applicant’s final claim amendment added the limitation: “receive, through at least one layer of the display panel, at least a portion of light reflected by an object in proximity to the device.” Ex-1004, 0597. This limitation, which resulted in allowance, was added to avoid the Omura prior art, but is

plainly disclosed by Gettemy, *e.g.*, in Figure 2. *See* Ex-1005, Fig. 2; *Supra* Section XIII.A.2.e, below.

Ex. 1002 ¶ 38.

Petitioner further contends that Gettemy was submitted, along with 46 other references, towards that end of prosecution. Pet. 8–9, 22 (citing Ex. 1004, 950–955). Petitioner asserts that “the examiner did not make any statements about any one of the references submitted in the IDS, other than stating that they were ‘considered except where lined through.’” *Id.* Petitioner contends that the record is therefore silent on the Examiner’s view of Gettemy. *Id.* at 23. Petitioner argues that “the significance of the 47 references in a late-filed IDS on which the record is silent is substantially outweighed by the clear and unambiguous disclosures of Gettemy set out in detail in this petition.” *Id.* at 24 (citing Ex. 1002 ¶ 39).

Patent Owner argues that Petitioner only makes a general allegation of Examiner error, which is insufficient to meet the second prong of *Advanced Bionics*. Prelim. Resp. 27–28. Patent Owner asserts that, contrary to Petitioner’s argument on the teaching of the limitation “receive, through at least one layer of the display panel, at least a portion of light reflected by an object in proximity to the device,” Gettemy does not teach the limitation for the reasons discussed in the Preliminary Response. *Id.* at 28–29. Patent Owner further contends that “even assuming Petitioner was correct and the Examiner somehow erred with respect to this specific limitation, the alleged error would not be ‘material’” because there were several limitations added in a final amendment, and the Examiner cited them in the reason for allowance. *Id.* at 29 (citing Ex. 1004, 597, 935–936). Patent Owner argues that, even if the Examiner agreed that Gettemy disclosed the “receive”

limitation, the Examiner still could have found the claims patentable for other reasons. *Id.*

Patent Owner further asserts that other references were in the prosecution history that disclose similar and cumulative teachings to the alleged overlooked portions of Gettemy, and the Examiner still found the claims patentable. Prelim. Resp. 29. More specifically, Patent Owner refers to Newton II (U.S. Publication No. 2005/0248540), for the alleged teaching of the “receive” limitation, which the Examiner discussed during the prosecution of the ’931 patent. *Id.* at 30–31. Patent Owner also points to references that were part of the prosecution of the ’238 application, a parent to the ’931 patent. *Id.* at 32–33. Patent Owner refers to Reime (U.S. Publication No. 2003/0034439) and Newton I (U.S. Publication No. 2002/0075243) for the alleged teaching of the “receive” limitation, alleging the references are cumulative to Gettemy. *Id.*

Under the second step of *Advanced Bionics*, *Becton Dickinson* factors (c), (e), and (f) inform our analysis. *See Advanced Bionics* at 8; *Becton Dickinson* at 17–18. As for factor (c), the extent to which the asserted art was evaluated during examination, we agree with Petitioner that the record is silent as to any evaluation by the Examiner of Gettemy, short of acknowledgement in an IDS submitted that was submitted just prior to allowance, which contained multiple other references. *See* Ex. 1004, 950–953. Turning to factors (e) and (f), whether Petitioner has pointed out sufficiently how the Examiner erred and whether the Petition presents facts and evidence to warrant reconsideration, we do not find Patent Owner’s argument of the insufficiency of Petitioner’s allegations to be persuasive. More specifically, Petitioner alleges that the Examiner erred using

Gettemy's teaching of the "receive" limitation (Pet. 22–23), and the Petition contains further discussion of the teaching in the merits portion of the Petition (*id.* at 41–42), and declarant testimony is provided in support (Ex. 1002 ¶¶ 38, 92–95). As discussed below, we find Petitioner's arguments and evidence at this juncture sufficiently demonstrate Gettemy's teaching of the "receive" limitation, and, moreover, demonstrates that the Examiner failed to discern Gettemy's teachings of the other limitations of the other independent claims as well, which is material error. Accordingly, we find, at this juncture, that the record supports that the Examiner erred during prosecution.

Additionally, we disagree with Patent Owner's assertions that Newton II, Reime, and Newton I are duplicative of Gettemy. Prelim. Resp. 30–33. More specifically, Patent Owner alleges that the Examiner considered Newton II, and that its teachings are cumulative to Gettemy. *Id.* at 30–31 (citing Ex. 2011 ¶¶ 22–23, 46–50, Fig. 3B). In Newton II, however, the touch panel (shown as element 110) does not equate to the claimed display panel because we do not discern, and Patent Owner does not identify support, that the touch panel has a claimed pixel array that "visually present[s] digital content." Similarly, Patent Owner asserts that Reime is cumulative to Gettemy for the teaching of the claim limitation of "receive, through at least one layer of the display panel, at least a portion of light reflected by an object in proximity to the device." *Id.* at 32 (citing Ex. 2012 ¶¶ 86–89, Fig. 8D; Ex. 2014, 286⁵, 980). However, although Patent Owner identifies element 60 of Figure 8D of Reime as a "panel," Reime identifies

⁵ The Preliminary Response refers to page 1023 rather than page 286 of Exhibit 2012, but the citation is erroneous.

the element as a “cover plate” and we do not discern, and Patent Owner does not identify support, that Reime’s cover plate has a claimed pixel array that “visually present[s] digital content” so that it could be considered to be a display panel as claimed. *See* Ex. 2012 ¶ 86, Fig. 8D. Finally, Patent Owner similarly asserts that Newton I is cumulative to Gettemy. *Id.* at 32–33 (citing Ex. 2010 ¶¶ 25–28, Figure 1; Ex. 2014, 394⁶). However, Patent Owner does not explain, nor do we discern, how light reflected by an object received through a layer of the display panel is taught in Newton I. We note that during the prosecution of the ’238 application, the applicant indicated that the Examiner misunderstood Newton I’s teachings, and Newton I did not disclose that reflected light propagated within a display panel. *See* Ex. 2014, 423–424. Accordingly, we do not find the cited references to be cumulative to Gettemy.

For the foregoing reasons, we are not persuaded that we should exercise our discretion under § 325(d) to deny institution, and we decline to do so.

III. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art the time of the invention would have had a bachelor’s degree in electrical engineering, computer engineering, computer science, or a related field, and two years of industry experience in research, design, development, and/or testing of touch and/or proximity sensors, human-machine interaction and interfaces, and related firmware and software, with additional education substituting for

⁶ The Preliminary Response refers to page 923 rather than page 394 of Exhibit 2014, but the citation is erroneous.

experience and vice versa. Pet. 9–10 (citing Ex. 1002 ¶ 45). Patent Owner does not provide a proposed level of qualifications for one of ordinary skill in the art. Prelim. Resp. 17.

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). The level of ordinary skill in the art is also reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Considering the subject matter of the ’931 patent, the background technical field, and the prior art, we agree with Petitioner’s proposed qualifications for one of ordinary skill in the art at this stage of the proceeding.⁷

B. Claim Construction

For petitions filed after November 13, 2018, the Board interprets claim terms in accordance with the standard used in federal district court in a civil action involving the validity or infringement of a patent. 37 C.F.R. § 42.100(b) (2019). Under the principles set forth by our reviewing court, the “words of a claim ‘are generally given their ordinary and customary meaning,’” as would be understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303,

⁷ The parties are encouraged to address the impact, if any, of differences in the level of qualifications on the obviousness analysis in subsequent briefing, in accordance with our Rules.

1312 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner contends that no claim terms require explicit construction. Pet. 10. Patent Owner also asserts that no claim construction is required in order to determine whether to institute review. Prelim. Resp. 19.

We determine that it is not necessary to provide an express interpretation of any claim terms at this juncture. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

C. Alleged Obviousness of Claims 1, 3, 6–13, 15, and 18–21 Over Gettemy Alone or in Combination with Philipp

Petitioner contends that claims 1, 3, 6–13, 15, and 18–21 would have been obvious over Gettemy alone or in combination with Philipp. Pet. 25–60. To support its contentions, Petitioner provides explanations as to how Gettemy and Philipp teach each claim limitation and that there is a motivation to combine the references. *Id.* Petitioner also relies upon the Bederson Declaration (Ex. 1002) to support its positions.

We begin our discussion with a brief summary of Gettemy and Philipp, and then address the evidence and arguments presented.

1. Gettemy (Ex. 1005)

Gettemy is directed to providing information relating to an object relative to a display. Ex. 1005 ¶ 10. The displays allow user interaction with displays that are used in various devices, such as computers, handheld devices, portable computing devices, handheld scanners, and mobile telephones. *Id.* ¶ 23. A schematic representation of a display is shown in Figure 1, reproduced below.

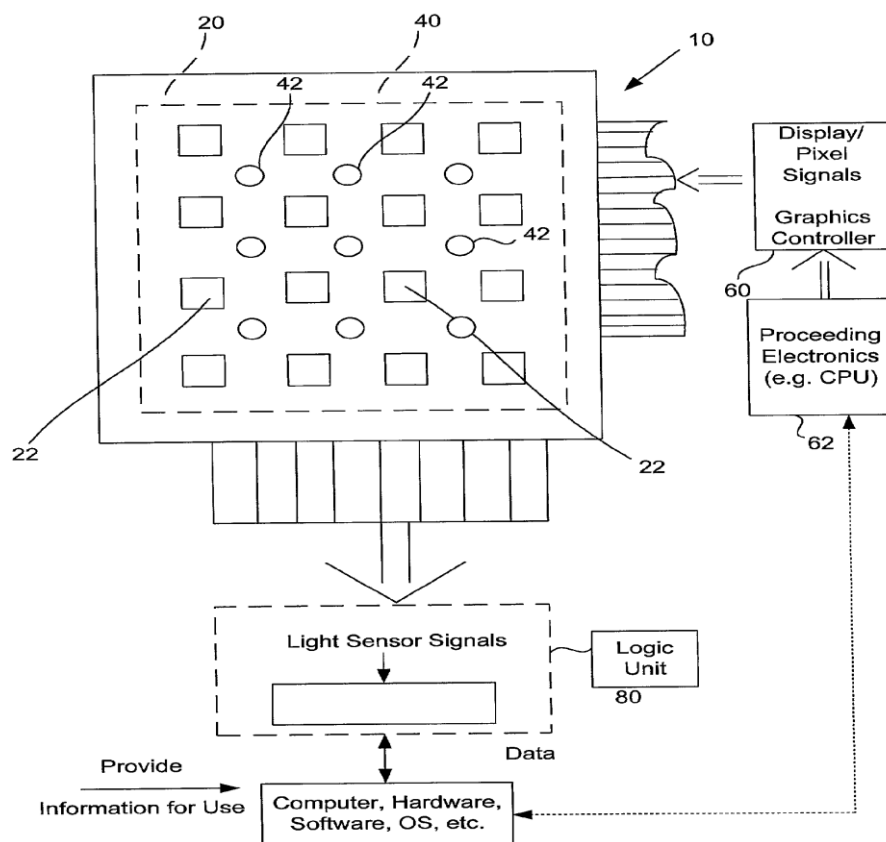
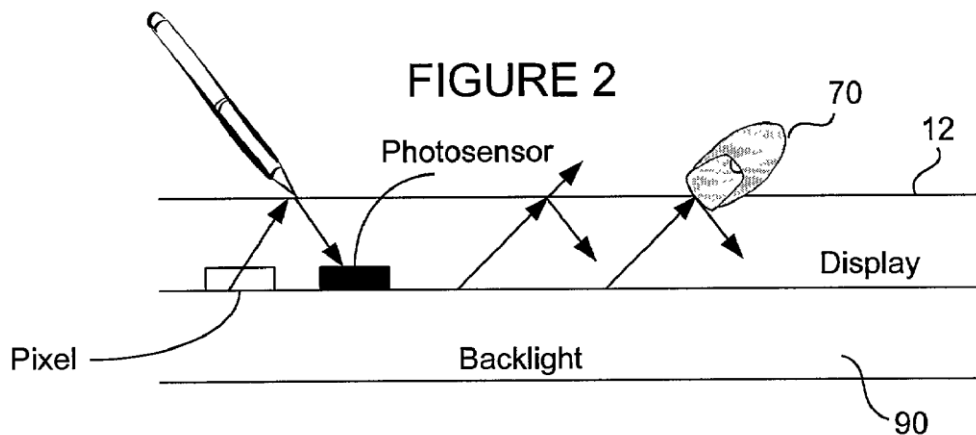


FIGURE 1

As shown in Figure 1, above, display 10 includes pixels 20, which include individual pixels 22, light sensors 40 in an array, which include individual light sensors 42, graphics controller 60, and logic unit 80. Ex. 1005 ¶¶ 24–28. Figure 2, reproduced below, is a cross-section of display 10.

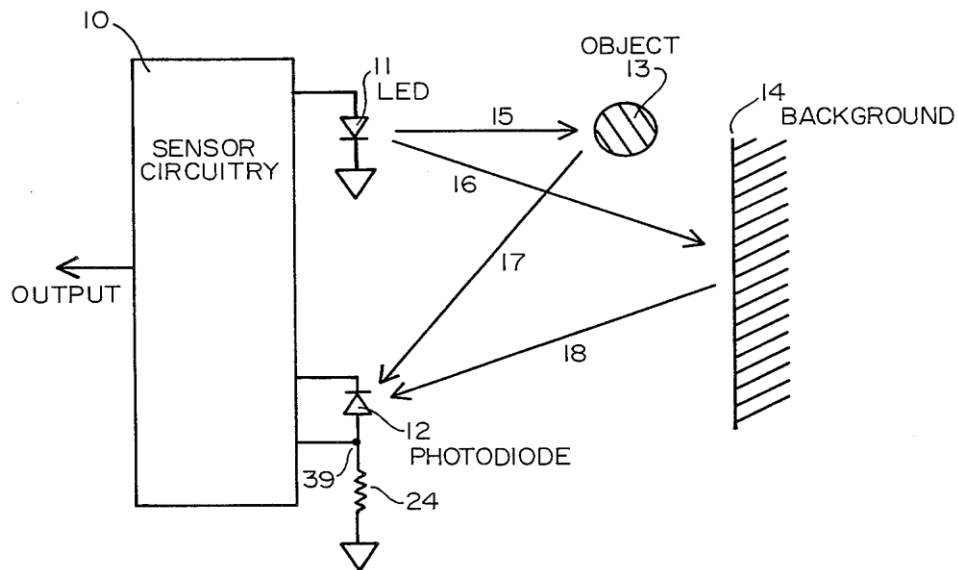


As shown in Figure 2, above, when light is emitted from pixels 20, from a backlight 90, or from other sources, a certain amount of light will pass through a display surface 12, and a certain amount of light will be reflected or refracted back from display surface 12. Ex. 1005 ¶ 24. When object 70 is near display 10, object 70 reflects or refracts a certain amount of light which has passed through display surface 12, back toward display 10. *Id.* By detecting the additional amount of light that is reflected or refracted from object 70, the position of object 70 relative to display 10 may be determined. *Id.*

2. Philipp (Ex. 1006)

Philipp is directed to sensing apparatus for the emission and subsequent detection of energy fields and disturbances within such fields, and, more particularly, to an optical sensor for sensing object motion, presence, or other disturbance within a sensing region. Ex. 1006, 1:5–11. A block diagram of Philipps's optical sensor is shown in Figure 1, reproduced below.

FIG. 1



As shown in Figure 1, above, the optical sensor includes infrared light emitting diode (LED) 11 that emits rays of a beam of energy 15 represented by lines 15 and 16 into a sensing region of space. Ex. 1006, 5:12–17. The beam reflects off objects in the region, such as stationary background 14 which is used to discriminate against, and object 13 which is to be sensed. *Id.* at 5:17–20. Light energy reflected is received by photodiode 12 sensitive to the emitted light energy. *Id.* at 5:20–22. Photodiode 12 generates a signal current proportional to the intensity of the light received, which when passed through a passive element, such as resistor 24, creates a voltage proportional to the light energy received from the reflection. *Id.* at 5:22–28.

3. Analysis

A patent claim is unpatentable under 35 U.S.C. § 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). The question of obviousness is resolved on the basis of underlying factual determinations 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 ordinary skill in the art; and (4) objective evidence of nonobviousness.⁸ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

a) Independent claim 1

The Petition asserts that Gettemy alone or in combination with Philipp teaches all the limitations of claim 1, and one of ordinary skill in the art would have been motivated to combine the prior art references. *See* Pet. 25–42.

i. Limitations 1[a], 1[b]

Petitioner asserts that Gettemy discloses a display panel, which includes pixels. Pet. 30–32 (citing Ex. 1005 ¶¶ 24, 26, Fig. 1). Petitioner contends that in Gettemy the pixel array visually displays digital content such as “text, graphics, images, pictures, and other visual information.” *Id.* at 32 (citing Ex. 1005 ¶ 25).

Patent Owner does not contest Petitioner’s assertions for the prior art teachings of limitation 1[a]. We have reviewed the record and determine that, at this juncture, Petitioner has provided sufficient evidence of the prior art teachings for this limitation.

For limitation 1[b], Petitioner asserts that Gettemy discloses an emitter in the display area that illuminates nearby objects. Pet. 32. Petitioner points to Gettemy’s disclosure that light may be emitted from a

⁸ No objective evidence of nonobviousness is presented in Patent Owner’s Preliminary Response. *See generally* Prelim. Resp.

pixel, a backlight, or other sources. *Id.* (citing Ex. 1005 ¶ 24). In addition to placement of an IR light in placed in the display screen (other sources), Dr. Bederson also testifies that, as another example, a person of ordinary skill in the art would have been able to implement Gettemy's backlight for illumination. Ex. 1002 ¶¶ 84–85. Dr. Bederson additionally refers to Gettemy's disclosure that its pixels may be made be made of subpixels, emitting light in different wavelength, and that a person of skill in the art would have been successful in adding an IR-emitting subpixel in the pixel array. *Id.* ¶¶ 87–88.

Referring to Gettemy's disclosure that "[l]ight sensor 42 may be tuned to be responsive to certain types of light (i.e. infrared, visible, ultra-violet, other types of electromagnetic radiation, etc.)," Petitioner asserts that a person of ordinary skill in the art would have found it obvious to use an IR emitter in view of this disclosure. Pet. 33 (citing Ex. 1005 ¶ 32). Dr. Bederson additionally refers to Gettemy's disclosures that the wavelength for reflection may be chosen and the panel may be designed to allow light, including non-visible light, through the panel for detection. Ex. 1002 ¶ 81 (citing Ex. 1005 ¶¶ 32, 47). Dr. Bederson testifies that a person of ordinary skill in the art "would understand that an obvious kind of non-visible light is IR light (especially since Gettemy discloses that it can sense IR light)." *Id.*

Petitioner asserts that, to the extent that an IR emitter is not taught by Gettemy alone, Phillips discloses the use of an infrared light emitting diode (LED). Pet. 35–36 (citing Ex. 1006, 5:13–22; Ex. 1002 ¶ 83). Petitioner contends that a person of ordinary skill would have been motivated to use the same wavelength of light for an emitter and detector to ensure that the

signals are properly tuned to each other. *Id.* at 36–37 (citing Ex. 1005 ¶¶ 32, 48; Ex. 1002 ¶ 83).

Patent Owner contends that the Petition admits that Gettemy does not disclose an IR emitter. Prelim Resp. 45. Patent Owner asserts that the Petition neglects the claim requirement that the IR emitter be “positioned proximate to the display area.” *Id.* Patent Owner argues that Gettemy teaches that the emitters are in the display area, and not proximate to the display area, and Philipp fails to cure Gettemy’s defect. *Id.* More specifically, Patent Owner asserts that Petitioner overlooks the “proximate” requirement, and instead acknowledges that the alleged IR emitter in Gettemy is in the display area rather than proximate to the display area. *Id.* at 46 (citing Pet. 32). Patent Owner contends that the ’931 patent distinguishes between embodiments where the emitters are proximate to the display area, and those where the emitters are in the display area. *Id.* at 46–47 (citing Ex. 1001, Figs. 1A, 2A).

Patent Owner asserts that the “Petition provides no argument for why it would have been obvious to modify Gettemy to position the IR emitter proximate to the display area instead of in the display area.” Prelim. Resp. 47. Patent Owner argues that if there were replacement of display pixels that emit visible light with pixels of non-visible (IR) light, as Petitioner proposes, it would reduce brightness, resolution, and create dead spots. *Id.* at 48. Similarly, Patent Owner asserts, infrared light would not be used as a backlight, because it would provide no brightness for display illumination for a human viewer. *Id.* Further, Patent Owner argues that Petitioner provides no explanation as to how IR LEDs would be implemented as “other sources,” or where they would be located. *Id.* at 48–49.

Patent Owner additionally asserts that a person of ordinary skill in the art would not look to Philipp to solve a problem with touch displays because the reference does not mention displays. Prelim. Resp. 49. Patent Owner contends that Gettemy teaches away from the combination with Philipp because, rather than eliminating components as Gettemy teaches, combination with Philipp would add unnecessary components. *Id.* at 50.

At this juncture, we determine that Petitioner has provided sufficient argument and evidence of the teaching of this limitation. Gettemy discloses that “in one exemplary embodiment, light sensor 42 is configured to detect light in the infrared wavelength.” Ex. 1005 ¶ 32. In view of this teaching, we find that Dr. Bederson’s testimony that a person of ordinary skill in the art would have found it obvious to use an IR emitter in Gettemy is supported. *See* Ex. 1002 ¶ 81. As such, at this juncture, we find that the evidence of the teaching of an IR emitter is sufficient based on Gettemy alone, and, therefore, we need not reach issues related to the combination of Gettemy and Philipp.

On the issue of the teaching of the positioning of the emitter “proximate to the display area,” Petitioner refers to Gettemy’s disclosure that light may be emitted from a pixel, a backlight, or other sources. Pet. 32 (citing Ex. 1005 ¶ 24). At this juncture, we find that, at least, Petitioner’s contention that Gettemy’s backlight would be used “to provide a light source which will be reflected by object 70” provides sufficient support for the teaching at this juncture. *Id.* at 38 (citing Ex. 1005 ¶ 27; Ex. 1002 ¶¶ 88–89). Backlight layer 90 appears to be below the display layer as shown in Figure 2 of Gettemy, and, accordingly, the backlight layer would be proximate to the display area with the pixel array. Ex. 1005, Fig. 2. Further,

although Patent Owner argues that infrared light should not be used as a backlight because it would provide no brightness, Gettemy discloses that

According to one exemplary embodiment, the screen may need to be provided with a *higher amount backlight* in order to detect higher levels of detail. For example, if display 10 uses a liquid crystal display (LCD), and the LCD is substantially darkened, *additional light may need to be provided in order to be reflected*, and thereby detected. The panel may be designed to allow *light (including non-visible light)* through the panel for detection.

Ex. 1005 ¶ 47 (emphasis added). This disclosure appears to indicate that in Gettemy the backlight could use non-visible light for reflection purposes. Accordingly, on this record, we do not find Patent Owner's arguments persuasive.

At this juncture, Petitioner has provided sufficient evidence of the prior art teachings of these limitations.

ii. Limitation 1[c]

Petitioner asserts that Gettemy's position-sensing features may be positioned on the display 10 in positions proximate to the edge of the display. Pet. 39–41 (citing Ex. 1005 ¶¶ 25, 28, Fig. 1; Ex. 1002 ¶ 91). Petitioner further contends that Gettemy discloses that its “panel may be designed to allow light (including non-visible light) through the panel for detection” and that “a certain amount of light will pass through a display surface 12, and . . . [w]hen an object 70 is near display 10, object 70 reflects or refracts a certain amount of light which has passed through display surface 12, back toward display 10.” *Id.* at 41 (citing Ex. 1005 ¶¶ 24, 47).

Patent Owner argues that in Gettemy, the light received by the light sensors does not pass through one layer of the display panel “because the

light exits and enters the same surface 12 of the integrated display panel layer without ever passing through that layer.” Prelim. Resp. 53. Patent Owner asserts that “Gettemy’s photosensor is integrated within the display panel so it could not receive light that passed through Gettemy’s display panel.” *Id.* Patent Owner further argues that, without support, Petitioner is implicitly construing “‘through at least one layer’ to mean ‘through at least one *surface of a layer*’ or ‘*partially* through at least one layer.’” *Id.*

We have reviewed the record and determine that, at this juncture, Petitioner has provided sufficient evidence of the prior art teachings for this limitation. The parties do not provide proposed claim construction for the term “through,” nor did the parties identify this term as requiring construction. *See* Ex. 1034, Exs. 2004–2008. We note, however, that Gettemy uses the same terminology, that is, the term “through,” as recited in the claim limitation when describing its operation. *See* Ex. 1005 ¶ 47 (“The panel may be designed to allow light (including non-visible light) *through* the panel for detection.”). Gettemy’s detectors also appear to be located at the bottom of the layer above the backlight, indicating passage of reflected light at least through the layer of the panel above the detector. *See id.* at Fig. 2. Accordingly, on this record we do not find Patent Owner’s arguments persuasive.

At this juncture, Petitioner has provided sufficient evidence of the prior art teaching of this limitation.

iii. Limitation 1[d]

For the teaching of this limitation, Petitioner contends that Gettemy discloses a processing unit and “signals from light sensors 40 are passed to logic unit 80, so that logic unit 80 can determine the position of object 70

relative to display 10. Once the position of object 70 is determined, the position may then be passed to CPU 62.” Pet. 42–43 (citing Ex. 1005 ¶ 38).

Patent Owner does not contest Petitioner’s assertions for the prior art teachings of limitation 1[d]. We have reviewed the record and determine that, at this juncture, Petitioner has provided sufficient evidence of the prior art teachings for this limitation.

iv. Limitation 1[e]

For the teaching of this limitation, Petitioner asserts that Gettemy discloses “logic unit 80 may be configured to compare the light sensor signals with an expected readout value,” where these expected values may be provided by a “calibration chart” or “comparison table.” Pet. 46 (citing Ex. 1005 ¶ 40). By this disclosure, Petitioner contends that Gettemy teaches determining whether an output signal exceeds a predetermined threshold.

Patent Owner does not contest Petitioner’s assertions for the prior art teachings of limitation 1[e]. We have reviewed the record and determine that, at this juncture, Petitioner has provided sufficient evidence of the prior art teachings for this limitation.

v. Limitation 1[f]

For the teaching of the limitation of calculating the position of an object, Petitioner refers to Gettemy’s Figure 3, which depicts an embodiment for determining the position of an object relative to a display. Pet. 48–49 (citing Ex. 1005 ¶ 39, Fig. 3).

Patent Owner does not contest Petitioner’s assertions for the prior art teachings of limitation 1[f]. We have reviewed the record and determine

that at this juncture Petitioner has provided sufficient evidence of the prior art teachings for this limitation.

vi. Limitation 1[g]

For the teaching of the limitation of executing input functionality corresponding to the position of the object, Petitioner asserts that Gettemy discloses executing a number of input functionalities corresponding to the position of the object. Pet. 50. In support, Petitioner refers to an example where “the information relating to the object is provided to data processing electronics (such as a CPU 62) to determine or interpret the motion of object 70 into an alpha-numeric text characters (e.g. Graffiti™, etc.) for use with text processing programs, user programs, operating systems, etc.” *Id.* (citing Ex. 1005 ¶ 42).

Patent Owner does not contest Petitioner’s assertions for the prior art teachings of limitation 1[g]. We have reviewed the record and determine that, at this juncture, Petitioner has provided sufficient evidence of the prior art teachings for this limitation.

vii. Summary

Accordingly, based on the information set forth in the Petition and the testimony of Dr. Bederson, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claim 1 would have been obvious over Gettemy alone.

b) Independent claims 13 and 21 and dependent claims 3, 6–12, 15, and 18–20

Independent claim 13 is method claim, and claim 21 is a system claim, but they are similar to apparatus claim 1, and Petitioner relies upon the same evidence and arguments for its obviousness challenge. Pet. 27–51.

Patent Owner presents the same arguments for claims 13 and 21 as those presented for claim 1. Prelim. Resp. 43–51. For the reasons given in our discussion of claim 1, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on the challenge to independent claims 13 and 21.

We have considered Petitioner’s arguments and evidence for dependent claims 3, 6–12, 15, and 18–20 and are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that these claims would have been obvious. Pet. 52–60. Patent Owner does not present arguments contesting Petitioner’s allegations for these claims.

D. Alleged Obviousness of Claims 2 and 14 over Gettemy Alone, Or In Combination with Phillip, and Carstedt

Petitioner contends that claims 2 and 14 would have been obvious over Gettemy alone, or in combination with Phillip, and Carstedt. Pet. 61–67. To support its contentions, Petitioner provides explanations as to how the combination of the references teaches each claim limitation and that there is a rationale to combine the references. *Id.* Petitioner also relies upon the Bederson Declaration (Ex. 1002) to support its positions. Patent Owner does not present arguments contesting Petitioner’s additional allegations for these claims. *See generally* Prelim. Resp.

We begin our discussion with a summary of Carstedt, and then address the evidence and arguments presented.

1. Carstedt (Ex. 1007)

Carstedt is directed to a touch input device, and, more particularly, to “an opto-matrix frame having automatic corner glare compensation.” Ex. 1007, 1:7–9. Carstedt states that it is desirable “to have a device which dynamically compensates for ambient light and for variations in emitter

output and detector sensitivity.” *Id.* at 2:17–19. In order to compensate, Carstedt uses ambient light sampling and to update detection thresholds based on the ambient light, with “a continuous and dynamic sampling of ambient light [] utilized and taken into account.” *Id.* at 15:15–16, Fig. 7, step 330.

2. Analysis

We have considered Petitioner’s arguments and evidence for the challenges to claims 2 and 14 of the ’931 patent and are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that these claims would have been obvious over the combination of Gettemy, Philipp, and Carstedt. *See* Pet. 61–67. In particular, we find the evidence presented for the rationale to combine the references, which includes that a person of ordinary skill in the art would seek to solve well-known optical touch detection problems, is sufficient. *Id.* at 61 (citing Ex. 1002 ¶ 128). Further, Petitioner points to Carstedt’s disclosure of the determination of a baseline level of ambient light incident on the device, which is then subtracted from the level read from the detector. *Id.* at 63 (citing Ex. 1007, 14:20–26, Fig. 7, steps 210, 220). If the detector is saturated with ambient light, the sensed signal value “is compared against a predetermined fixed minimum threshold value,” and if this ambient saturated value is greater than the first predetermined threshold, then a new threshold above the baseline ambient level is calculated. *Id.* at 63–64 (citing Ex. 1007, 15:1–15, Fig. 7, steps 230, 330)

We agree that this, in addition to other evidence presented by Petitioner, is sufficient, at this juncture, to demonstrate the teaching of the limitations of claims 2 and 14 by the combination of Gettemy, Philipp, and

Carstedt and sufficient rationale to combine the references has been demonstrated. Patent Owner does not present arguments specific to these claims.

We are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on the obviousness challenge to claims 2 and 14 of the '931 patent over Gettemy, Philipp, and Carstedt.

IV. CONCLUSION

Based on the arguments and evidence presented in the Petition, the Preliminary Response, and accompanying exhibits, we have determined there is a reasonable likelihood Petitioner would prevail with respect to at least one claim challenged in the Petition. We conclude that the threshold has been met for instituting *inter partes* review, and we institute on all challenged claims and all grounds. *See* 37 C.F.R. § 42.108(a). We have not made a final determination on claim construction or as to the patentability of any of the challenged claims. Our final determination will be based on the record as fully developed during trial.

V. ORDER

Accordingly, it is:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted as to challenged claims 1–3, 6–15, and 18–21 of the '931 patent for all grounds raised in the Petition; and

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

IPR2021-01190
Patent 10,156,931 B2

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