

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO., LTD.,  
Petitioner,

v.

IMMERSION CORPORATION,  
Patent Owner.

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Case IPR2018-01467  
Patent 6,429,846 B2

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Before WILLIAM V. SAINDON, PATRICK R. SCANLON, and  
NEIL T. POWELL, *Administrative Patent Judges*.

SCANLON, *Administrative Patent Judge*.

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

## I. INTRODUCTION

Samsung Electronics Co., LTD., (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1, 2, 4, 7, 13, 16, 18, and 19 of U.S. Patent No. 6,429,846 (Ex. 1001, “the ’846 patent”).

Immersion Corporation (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). Petitioner filed a Reply to Patent Owner’s Preliminary Response. Paper 7 (“Reply”). Patent Owner filed a Sur-Reply. Paper 8 (“Sur-Reply”).<sup>1</sup> We have authority under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a).

To institute an *inter partes* review, we must determine that the information presented in the Petition shows “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). For the reasons set forth below, upon considering the Petition, Preliminary Response, Reply, Sur-Reply, and evidence of record, we determine that the information presented in the Petition establishes a reasonable likelihood that Petitioner will prevail with respect to at least one challenged claim. We thus institute *inter partes* review on all challenged claims and all asserted grounds. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018); U.S. Patent and Trademark Office, *Guidance on the impact of SAS on AIA trial proceedings*, <https://www.uspto.gov/patents-application-process/patent-trial-and-appealboard/trials/guidance-impact-sas-aia-trial> (Apr. 26, 2018) (“SAS Guidance”).

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<sup>1</sup> The arguments presented in the Reply and Sur-Reply were limited to the issue of whether the Petition was filed timely under 35 U.S.C. § 315(b).

Our factual findings and conclusions at this stage of the proceeding are based on the evidentiary record developed thus far. This is not a final decision as to the patentability of claims for which *inter partes* review is instituted. Our final decision will be based on the record as fully developed during trial.

## II. BACKGROUND

### *A. Related Matters*

The parties identify the following related matters:

*Immersion Corp. v. Samsung Elecs. Am., Inc.*, Case No. 2:17-cv-00572 (E.D. Tex.); *Immersion Corp. v. Samsung Elecs. Am., Inc.*, Case No. 2:18-cv-00055 (E.D. Tex.); and *Immersion Corp. v. Motorola Mobility LLC*, Case No. 1:17-cv-01081 (D. Del.). Pet. 77; Paper 4, 2. Additionally, Petitioner challenges the '846 patent on different grounds in IPR2018-01468. Pet. 77; Paper 4, 2. Patent Owner also identifies four other petitions for *inter partes* review, two reexamination proceedings, and 22 patent applications and patents as related to this proceeding. Paper 4, 3–5.

### *B. Real Parties-in-Interest*

Petitioner identifies itself and Samsung Electronics America, Inc. as the real parties-in-interest. Pet. 63. Patent Owner identifies itself as the real party-in-interest. Paper 4, 2.

### *C. The '846 patent*

The '846 patent, titled “HAPTIC FEEDBACK FOR TOUCHPADS AND OTHER TOUCH CONTROLS,” issued August 6, 2002, with claims 1–43. Ex. 1101, (54), (45), 17:18–20:46. Two Certificates of Correction have been issued in connection with the '846 patent, with the

second Certification of Correction (issued July 31, 2018) superseding the first. *Id.* at 17–25. The '846 patent is directed to “devices used to interface with computer system[s] and electronic devices and which provide haptic feedback to the user.” *Id.* at 1:20–22. Figure 1 of the '846 patent is reproduced below.

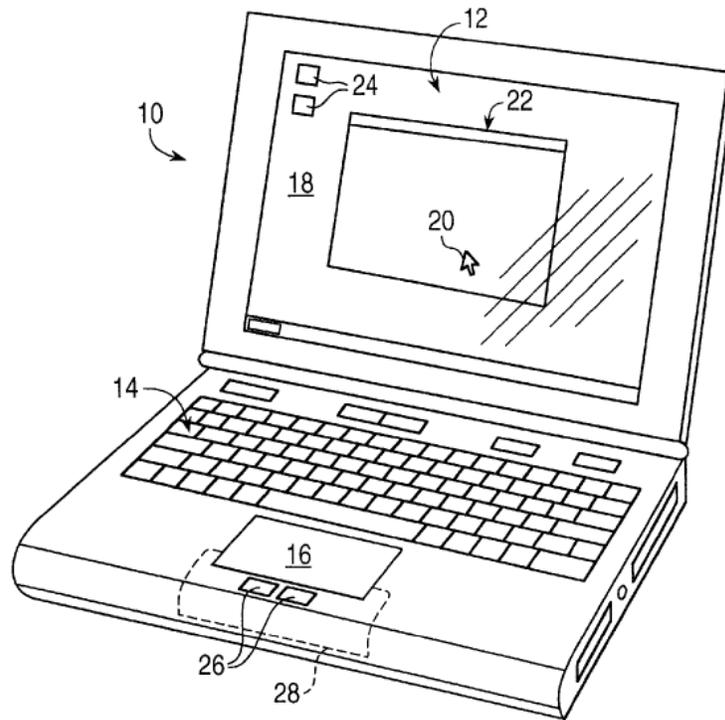


FIG. 1

Figure 1 is a perspective view of portable computer 10 including a haptic touchpad. *Id.* at 3:31–32. Portable computer 10 includes display device 12, keyboard 14, and touchpad 16. *Id.* at 3:39–43. Touchpad 16 inputs coordinate data to the main processor of computer 10 based on the sensed location of an object on or near the touchpad. *Id.* at 4:6–8.

“[T]ouchpad 16 is provided with the ability to output haptic feedback such as tactile sensations to the user who is physically contacting the touchpad.”

*Id.* at 4:65–67. For instance, “one or more moveable portions 28 of the housing of the computer device 10 can be included which is contacted by the user when the user operates the touchpad 16 and which can provide haptic feedback.” *Id.* at 5:56–60.

In one embodiment, one or more piezoelectric actuators 42 are coupled to the underside of touchpad 16 to provide haptic feedback to the user. *Id.* at 7:21–25, Fig. 3.

#### *D. Challenged Claims*

Of the challenged claims, claim 1 is independent. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. A haptic feedback touch control for inputting signals to a portable computer and for outputting forces to a user of the touch control, the touch control comprising:

a touch input device integrated into a housing of said portable computer, said touch input device including an approximately planar touch surface operative to input a position signal to a processor of said computer based on a location on said touch surface which said user contacts, said position signal representing a location in two dimensions, wherein said computer positions a cursor in a graphical environment displayed on a display device based at least in part on said position signal; and

at least one actuator coupled to said touch input device, said actuator outputting a force on said touch input device to provide a haptic sensation to said user contacting said touch surface, wherein said actuator outputs said force based on force information output by said processor, said actuator outputting a force directly on said touch input device.

*Id.* at 17:18–35, 21.

*E. The Prior Art*

Petitioner’s asserted grounds of unpatentability for the challenged claims rely on the following references:

Beeks	US 6,373,463 B1	Apr. 16, 2002	Ex. 1005
Stephan	US 5,748,185	May 5, 1998	Ex. 1006
Bisset	US 5,543,588	Aug. 6, 1996	Ex. 1007

Petitioner also relies on the Declaration of Jean Renard Ward (Ex. 1003).

*F. Asserted Grounds of Unpatentability*

Petitioner challenges claims 1, 2, 4, 7, 13, 16, 18, and 19 of the ’846 patent on the following grounds:

<b>References</b>	<b>Basis</b>	<b>Claim(s) Challenged</b>
Beeks and Stephan	§ 103	1, 2, 4, 7, 13, 16, 18, and 19
Beeks, Stephan, and Bisset	§ 103	7

**III. ANALYSIS**

*A. Level of Ordinary Skill in the Art*

Petitioner contends that a person having ordinary skill in the art to which the ’846 patent pertains “would have had a Bachelor of Science degree in an academic area emphasizing electrical engineering, computer engineering, haptic feedback design, user-interface design, or an equivalent field” and also “would have had two or more years of experience in the design of devices or user-interface systems including touchpads and touchscreens.” Pet. 11 (citing Ex. 1003 ¶¶ 38–40). Patent Owner does not

dispute this contention at this stage of the proceeding, nor does Patent Owner offer its own definition of the level of ordinary skill in the art.

We find, based on our review of the record before us, that Petitioner's stated level of ordinary skill in the art is reasonable because it appears consistent with the evidence at this stage of the proceeding, including the asserted prior art. Accordingly, for the purposes of this Decision, we adopt Petitioner's definition.

### *B. Claim Construction*

In this *inter partes* review, we give claim terms their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b) (2018)<sup>2</sup>; *see also* *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142–46 (2016) (concluding that 37 C.F.R. § 42.100(b) “represents a reasonable exercise of the rulemaking authority that Congress delegated to the Patent Office”). “Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016).

Petitioner contends that all terms of the challenged claims should be given their plain meaning consistent with the specification of the '846 patent. Pet. 9. To “promote transparency and consistency between the

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<sup>2</sup> A recent amendment to this rule does not apply here, because the Petition was filed before November 13, 2018. *See* “Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board,” 83 Fed. Reg. 51340, 51340 (Oct. 11, 2018) (amending 37 C.F.R. § 100(b) effective November 13, 2018) (to be codified at 37 C.F.R. pt. 42).

co-pending proceedings,” Petitioner also lists the agreed and disputed claim constrictions submitted by the parties in their related district court proceeding. *Id.* at 9–10 (citing Exs. 1012, 1013). The agreed claim construction for the claim 1 phrase “position signal representing a location” is “signal comprising coordinates of a location.” *Id.* at 9 (citing Ex. 1012, 2).

After noting that Petitioner does not provide a construction for any claim term, Patent Owner asserts that Petitioner applies the agreed-upon construction and agrees with Petitioner that “position signal representing a location” should be construed as “signal comprising coordinates of a location.” Prelim. Resp. 12 (citing Pet. 40). As an initial point, we disagree with Patent Owner’s assertion that Petitioner “applies” the agreed-upon construction. Instead, the portion of the Petition cited by Patent Owner states Petitioner’s assertion that Stephan “suggests and demonstrates obviousness of ‘said position signal representing a location in two dimensions’ . . . *under any reasonable construction* [thereof,] *including* the parties’ agreed-upon district court construction of ‘signal comprising coordinates of a location.’” Pet. 40 (emphases added). Moreover, although Petitioner indicates that it has agreed to the construction in the related district court proceeding, it does not contend that this construction applies here, as noted above.

Patent Owner provides three reasons in support of its assertion that “position signal representing a location” should be construed as “signal comprising coordinates of a location.” Prelim. Resp. 12–18. First, Patent Owner argues that “multiple parties and Courts have already agreed upon

this construction.” *Id.* at 12 (citing Ex. 2004, 1; Ex. 2005, 8; Ex. 2006, 2). Patent Owner, however, concedes that the Board is not bound by these agreed-upon constructions. *Id.* at 13 (citing *Power Integrations, Inc. v. Lee*, 797 F.3d 1318, 1326 (Fed. Cir. 2015)). This point is particularly apt here, where the agreed-upon construction of “position signal representing a location” from the district court proceeding is merely the product of a prior agreement between the parties in that forum and not the result of a judicial interpretation of a disputed claim term.

Second, Patent Owner argues that, because the parties have agreed on the construction for “position signal representing a location,” there is no controversy to resolve and no need for the Board to construe the phrase anew in this Decision. *Id.* at 13–14. Patent Owner is mistaken, however, that the parties are in agreement as to the construction of “position signal representing a location” *in this proceeding*. As noted above, Petitioner does not assert that “position signal representing a location” should be construed as “signal comprising coordinates of a location” in this proceeding; instead, Petitioner proposes that this phrase, and all claim terms, should be given their plain meaning consistent with the specification. Pet. 9.

Third, Patent Owner argues that “signal comprising coordinates of a location” is the proper construction for “position signal representing a location” under the broadest reasonable construction standard. Prelim. Resp. 14. In support of this argument, Patent Owner points to four passages in the ’846 patent. *Id.* at 14–16 (citing Ex. 1001, 4:6–8, 4:32–36, 6:24–29,

15:27–30; Ex. 2001 ¶¶ 40, 41).<sup>3</sup> Each of the first three of these passages refers to input from the *touchpad* as a whole. Ex. 1001, 4:6–8, 5:32–36, 6:24–29. The “position signal” of the phrase at issue, however, refers to a signal that is input by the “touch surface.” *Id.* at 17:21–23. The touch surface is described in the ’846 patent as an element of the touchpad and distinct from other touchpad structure such as “sensing apparatus.” *See id.* at 4:39–42 (“[T]he term ‘touchpad’ preferably includes the surface of the touchpad 16 as well as any sensing apparatus included in the touchpad unit.”). Indeed, the third passage cited by Patent Owner describes touchpad 16 including “circuitry” and “appropriate sensors,” rather than the touch surface, as producing control signals that report the position of a user’s finger on the touchpad. *Id.* at 6:24–29. Thus, these three passages are not particularly informative in construing the phrase “signal comprising coordinates of a location.”

In addition, these three passages refer to the touchpad inputting “coordinate data,” sending “position information,” and reporting “control signals” to computer 10. *Id.* at 4:6–8, 5:32–36, 6:24–29. The terms “coordinate data,” “position information,” and “control signals” are broader than “coordinates” per se and are not necessarily constrained to only refer to a pair of numbers describing a location in Cartesian space. For instance, “coordinate data” could refer to data about coordinates, or data usable to derive a location.

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<sup>3</sup> Although the Preliminary Response cites lines 32–38 in column 4 of the ’846 patent for the second cited passage, it appears that the passage Patent Owner actually refers to is at lines 32–38 in column 5 of the ’846 patent.

The fourth passage cited by Patent Owner states: “That is, the entire touchpad 16 surface need merely provide coordinates of user contact to the processor of the computer and software on the computer can designate where different regions are located.” *Id.* at 15:27–30. Although this passage describes the touchpad *surface* providing *coordinates* to the computer, it does so in the context of discussing regions 62 and 64, which (as discussed below) are not used for positioning a cursor on the display. *Id.* at 15:26–27.

Specifically, the '846 patent discloses that touchpad 16 can comprise different regions that provide different functions. *Id.* at 11:15–17. For instance, in one embodiment, touchpad 16 includes central cursor control region 70 in which a user moves a finger or other object to position cursor 20. *Id.* at 11:20–27, Fig. 7. This embodiment of touchpad 16 further includes scroll or rate control regions 62a, 62b that are “used to provide input to perform a rate control task, such as scrolling documents, adjusting a value (such as audio volume, speaker balance, monitor display brightness, etc.) or panning/tilting the view in a game or virtual reality simulation.” *Id.* at 14:27–32, Fig. 7.<sup>4</sup> Touchpad 16 also can include regions 64 that provide “a small rectangular area, like a button, which the user can point to in order to initiate a function associated with the pointed-to region,” including functions such as “running a program, opening or closing a window, going ‘forward’ or ‘back’ in a queue of web pages in a web browser, powering the computer 10 or initiating a ‘sleep’ mode, checking mail, firing a gun in a game, cutting or pasting data from a buffer, selecting a font.” *Id.* at 14:54–

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<sup>4</sup> Scroll or rate control regions 62a, 62b are denoted with reference numerals 72a, 72b in Figure 7.

63, Fig. 7.<sup>5</sup> Accordingly, regions 62 and 64 do not function to position cursor 20 on the display.

With this distinction in mind, we note that the fourth passage cited by Patent Owner relates to interpreting the coordinates to determine whether a “touchpad input signal” is a cursor control signal or a different type of signal. *Id.* at 15:31–34. The passage does not specify that the “touchpad input signal” itself comprises a pair of numbers describing coordinates. As such, it is not clear that this portion of the specification describes providing coordinates to define a position signal that represents a location of contact on a touch surface and is used to position a cursor on a display. And even if this passage does disclose providing a pair of numbers describing coordinates to define such a position signal, the passage relates to only one embodiment and does not suggest that every embodiment disclosed in the ’846 patent uses only a pair of number describing coordinates to produce a position signal for position the cursor.

Patent Owner also argues that its proposed claim construction is consistent with extrinsic evidence. Prelim. Resp. 17 (citing Ex. 2005, 223; Ex. 2007, 794).<sup>6</sup> The extrinsic evidence identified by Patent Owner is dictionary definitions for “position” and “coordinates.” *Id.* These definitions, however, are not particularly informative with respect to construing the phrase “position signal representing a location.” The issue raised by Patent Owner’s assertion that the phrase should be construed as

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<sup>5</sup> Regions 64 are denoted with reference numerals 74 in Figure 7.

<sup>6</sup> Although the Preliminary Response cites page 223 of Exhibit 2005, it appears that Patent Owner intended to cite page 223 of Exhibit 2007.

“signal comprising coordinates of a location” is not so much whether “position” refers to coordinates, but why the signal should be “comprising” position or coordinates rather than “representing” position or coordinates. The arguments and evidence submitted by Patent Owner do not support this contention adequately.

For the above reasons, we are not persuaded on the current record that the construction for “position signal representing a location” proposed by Patent Owner should be adopted. Furthermore, in view of our analysis discussed below, we do not discern a need to construe explicitly the phrase “position signal representing a location,” or any other claim term of the ’846 patent, because construing these terms is not necessary for us to assess the asserted grounds of unpatentability. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim terms need only be construed ‘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)).

The parties are hereby given notice that claim construction, in general, is an issue to be addressed at trial and claim constructions expressly or implicitly addressed in this Decision are *preliminary* in nature. The parties are expected to assert all of their claim construction arguments and evidence in the Petition, Patent Owner’s Response, Petitioner’s Reply, or otherwise during trial, as permitted by our rules.

### *C. Section 315(b)*

Institution of *inter partes* review is barred when the petition is filed more than one year after the petitioner is served with a complaint alleging infringement of the patent. 35 U.S.C. § 315(b); 37 C.F.R. § 42.101(b). The

one-year bar, however, does not apply to a request for joinder. 35 U.S.C. § 315(b) (final sentence); 37 C.F.R. § 42.122(b).

Patent Owner argues the Board lacks authority to institute this proceeding because Petitioner was served with a complaint asserting infringement of the '846 patent on August 4, 2017, but the Petition was not filed until August 6, 2018. Prelim. Resp. 2 (citing Ex. 2003, 1). According to Patent Owner, “the Federal Circuit has repeatedly refused to create exceptions to Section 315(b) that are not found in the text of that provision.” *Id.* at 3 (citing *Click-to-Call Techs., LP v. Ingenio, Inc.*, 899 F.3d 1321, 1329–32 (Fed. Cir. 2018) (en banc); *WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1317–19 (Fed. Cir. 2018)).

Patent Owner also notes that because August 4, 2018, was a Saturday, and the Petition was filed on Monday, August 6, 2018, Petitioner may attempt to excuse its alleged untimeliness by invoking 35 U.S.C. § 21(b). *Id.* at 5. Patent Owner asserts that such an argument “should be rejected because Section 21(b)’s general standard must yield to Section 315(b)’s specific jurisdictional limitations.” *Id.* at 5. According to Patent Owner, § 21(b) “provides a general rule that allows parties to take certain actions (*e.g.*, paying fees) on the next business day when a deadline falls on a weekend or holiday,” while § 315(b) “is a specific jurisdictional limitation, requiring that *inter partes* review petitions be filed no more than one year after service of a complaint and barring the PTO from instituting *inter partes* review unless that timeliness precondition is satisfied.” *Id.* at 6 (citing 35 U.S.C. §§ 21(b), 315(b)).

Patent Owner further argues that “[b]ecause ‘Congress demonstrated that it knew how to provide an exception to the time bar’ in Section 315(b), Congress’s intentional decision to limit that exception to certain joinder decisions of the PTO Director and nothing else, should foreclose any further exceptions.” *Id.* at 7 (citing *Click-to-Call*, 899 F.3d at 1331). Patent Owner asserts that “Section 315(b)’s unqualified reference to ‘1 year’ must mean 365 days—without exception—not 365 *business* days or 365 days *unless the last day is a weekend or holiday*.” *Id.* at 8 (citing 35 U.S.C. § 315(b); *Reid v. Universal Mar. Serv. Corp.*, 41 F.3d 200, 201-03 (4th Cir. 1994) (Wilkinson, J.)).

In addition, Patent Owner argues that “Section 21(b) was intended to apply to deadlines falling on days the PTO is ‘not [able] to receive papers,’ which in 1952 included Saturdays, Sundays and legal holidays,” but “with the advent of electronic filing, the PTO is effectively *never* closed for business.” *Id.* at 9 (citing *Ferwerda v. Coakwell*, 121 F. Supp. 334, 336 (N.D. Ohio 1953), *aff’d*, 220 F.2d 752, 752–53 (6th Cir. 1955)). Thus, Patent Owner contends that Petitioner *could have* filed its Petition on Saturday, August 4, 2018, but made the “deliberate and imprudent choice” not to do so. *Id.*; *see also* Sur-Reply 4 (“[N]othing prevented [Petitioner] from filing its petitions on Section 315(b)’s Saturday Deadline ‘given that filings with the Board may be made electronically . . . twenty-four hours a day and seven days a week.’”) (citing *Olympus Am., Inc. v. Perfect Surgical Techs., Inc.*, Case IPR2014-00233, slip op. at 42–43 (PTAB 2015) (Paper 56)).

In its Reply to Patent Owner's Preliminary Response, Petitioner does rely on § 21(b) in asserting that its Petition was filed timely. Reply 1.

Specifically, Petitioner notes that § 21(b) provides:

(b) When the day, or the last day, for taking any action or paying any fee in the United States Patent and Trademark Office falls on Saturday, Sunday, or a Federal holiday within the District of Columbia, the action may be taken, or the fee paid, on the next succeeding secular or business day.

*Id.* (citing 35 U.S.C. § 21(b)). Petitioner argues that “Section 21(b) unambiguously establishes that deadlines ‘for taking any action’ otherwise falling on a weekend or holiday (*e.g.*, through provisions like Section 315(b)) are extended to the first subsequent business day,” and “nothing in Title 35 pertaining to *inter partes* review (IPR) suggests that its provisions are exempt from the effect of Section 21(b).” *Id.* at 2.

Regarding Patent Owner's argument that the general standard of § 21(b) must yield to the specific jurisdictional limitations of § 315(b), Petitioner contends this “argument is a strawman that unjustifiably suggests the existence of ‘tension’ between Sections 21(b) and 315(b).” *Id.* Instead, Petitioner argues that “[n]o such tension exists” because “Section 21(b) is complementary to deadline-setting provisions such as those found in Section 315(b), which inevitably produce weekend and holiday deadlines of the type addressed by Section 21(b).” *Id.*

Petitioner also argues that various courts and tribunals have held that § 21(b) applies to 35 U.S.C. §§ 102(b), 119(a), 133. *Id.* at 3 (citing *ArQule, Inc. v. Kappos*, 793 F. Supp. 2d 214, 220-25 (D.D.C. 2011); *Orion IP, LLC v. Mercedes-Benz USA, LLC*, 485 F. Supp. 2d 745, 746-47 (E.D. Tex. 2007);

*Wingrove v. Langen*, 230 U.S.P.Q. 353, 355 (BPAI 1985); *Protein Foundation, Inc. v. Brenner*, 260 F. Supp. 519, 521 (D.D.C. 1966); *Ex parte Olah & Kuhn*, 131 U.S.P.Q. 41, 41-42 (BPAI 1960)). According to Petitioner, “[l]ike Section 315(b), these other statutory deadlines do not mention Section 21(b) expressly—and yet, Section 21(b) has still been held to apply because the deadline relates to ‘an action’ at the Office.” *Id.* at 4 (citing *ArQule*, 793 F. Supp. 2d at 224). Petitioner additionally cites *Samsung Elecs. Co., Ltd., v. ELM 3DS Innovations, LLC*, Case IPR2016-00393, slip op. at 4–5 (PTAB June 30, 2016) (Paper 11) as a Board decision interpreting § 315(b) to be covered by § 21(b). *Id.* at 4–5.

As for Patent Owner’s arguments based on the *Click-to-Call* decision, Petitioner argues “[a]pplication of Section 21(b)’s pre-existing statutory grace period to Section 315(b)’s time bar is not the same as erecting a non-statutory exception to 315(b), as was the case in *Click-to-Call*.” *Id.* at 4 (citing *Click-to-Call*, 899 F.3d at 1331).

Last, Petitioner asserts that “neither the Federal Circuit nor the Board has ever held or even suggested that Section 315(b)’s time bar should be excluded from the extensive reach of Section 21(b)’s grace period.” *Id.* at 5.

Patent Owner’s arguments do not persuade us that the Petition was untimely. More specifically, we are not persuaded on the current record that the provisions of § 21(b) should not apply in this situation. Instead, we agree with Petitioner that § 21(b)’s provisions regarding due dates for taking “any action” before the PTO include the timing of filing petitions for *inter partes* review, and nothing in the Patent Act suggests that the filing of such petitions is exempt from the provisions of § 21(b). *See Reply 2.*

Upon considering the parties' arguments, we also are not persuaded that the *Click-to-Call* decision precludes application of § 21(b) when determining whether a petition is filed timely. In *Click-to-Call*, the court rejected the argument that § 315(b) did not bar institution of a petition filed more than one year after service of a complaint because the complaint was voluntarily dismissed. *See Click-to-Call*, 899 F.3d at 1336 (“[W]e conclude that a defendant served with a complaint as part of a civil action that is voluntarily dismissed without prejudice remains ‘served’ with the ‘complaint.’”). The *Click-to-Call* decision is limited to these facts and does not support Patent Owner’s contention that any “exceptions” (other than certain joinder decisions) are foreclosed. We agree with Petitioner that the argument rejected in *Click-to-Call* was an attempt to create a non-statutory exception to § 315(b), while § 21(b) creates a statutory grace period that applies to “any action” in the PTO. Contrary to Patent Owner’s contention, this difference is not a “distinction without a difference.” *See Sur-Reply 2*. Rejection of a proposed exception that has no statutory basis is not a reason to preclude application of an otherwise applicable statutory provision.

In addition, we are not persuaded by Patent Owner’s argument that “Section 21(b)’s general standard must yield to Section 315(b)’s specific jurisdictional limitations.” *See Prelim. Resp. 5*. We do not discern these sections as creating conflicting general and specific provisions. Rather, we agree with Petitioner that § 21(b) “is complementary to deadline-setting provisions such as those found in Section 315(b).” *See Reply 2*.

Furthermore, Patent Owner’s argument that § 21(b) should not apply here because the Petition could have been filed electronically on Saturday,

August 4, 2018 is not persuasive. Because most, if not all, filings in the PTO now can be made electronically, Patent Owner's contention would render § 21(b) essentially obsolete. In other words, if § 21(b) does not apply to filing petitions because they can be filed electronically, then § 21(b) would not apply to any action in the PTO that could be accomplished via electronic filing. We decline to conclude that § 21(b) is obsolete.

For the above reasons, we determine that the Petition is not untimely under 35 U.S.C. § 315(b).

*D. Asserted Obviousness based on Beeks and Stephan*

Petitioner contends claims 1, 2, 4, 7, 13, 16, 18, and 19 are obvious over Beeks and Stephan. Pet. 26–70. Patent Owner provides arguments addressing this asserted ground of unpatentability. Prelim. Resp. 18–29.

*1. Principles of Law*

A patent claim is unpatentable under 35 U.S.C. § 103(a) 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) when available, secondary considerations, such as commercial success, long felt but unsolved needs, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We analyze this ground based on obviousness in accordance with the above-stated principles.<sup>7</sup>

2. *Overview of Beeks*

Beeks relates “to computer cursor pointing devices with tactile feedback.” Ex. 1005, 1:6–8. Figure 2 of Beeks is reproduced below.

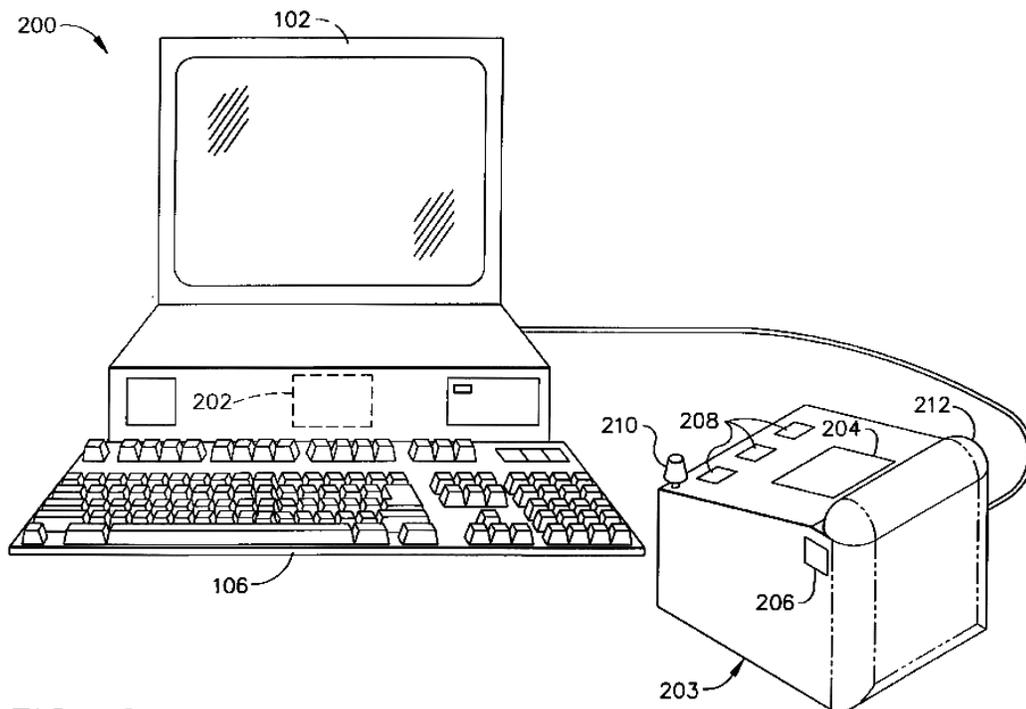


FIG. 2

Figure 2 is a perspective view of a computing system with a tactile feedback pointing device. *Id.* at 3:9–11. Computer system 200 includes display 102, keyboard 106, main processor 106, and pointing device 203. *Id.* at 3:51–53. Pointing device 203 includes input device element 204, such as a touchpad,

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<sup>7</sup> We address the level of ordinary skill in the art in Section III.A., *supra*. The record does not include any evidence of secondary considerations of nonobviousness at this point in the proceeding.

which receives input information from a user. *Id.* at 3:62–65. “When using the pointing device 203, the user could rest their palm on the palm rest 212, and use one of their fingers in conjunction with the input device element 204.” *Id.* at 4:2–5.

Figures 4 and 5 of Beeks are reproduced below.

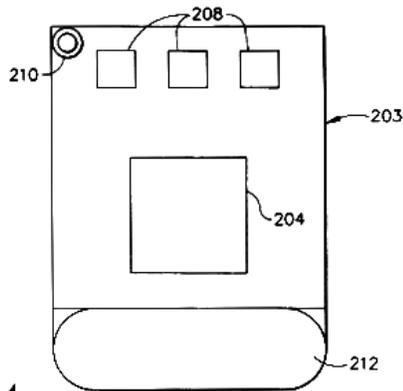


FIG. 4

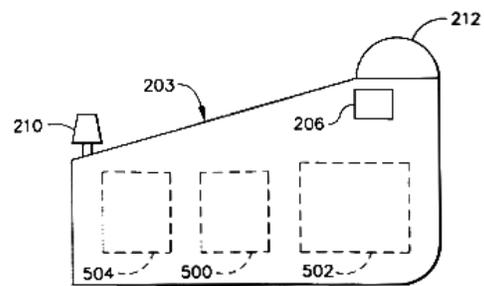


FIG. 5

Figure 4 is a top view of pointing device 203, and Figure 5 is a side elevational view of pointing device 203. *Id.* at 3:14–17. Pointing device 203 includes pointing device processor 500 and at least one motion inducer. *Id.* at 4:20–22. As shown in Figure 5, the motion inducers are vibrating source 502 and bumping source 504. *Id.* at 4:24–26. Vibrating source 502 and bumping source 504 are activated in an output from processor 500. *Id.* at 4:40–46.

The manner in which vibrating source 502 and bumping source 504 is depicted in more detail in Figure 6, which is reproduced below.

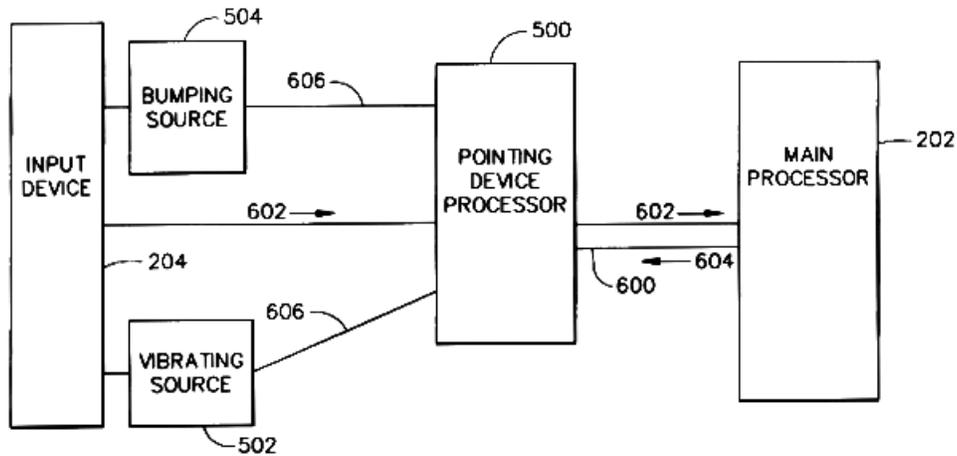


FIG. 6

Figure 6 is a schematic block diagram showing functional aspects of pointing device 203. *Id.* at 3:18–19. “Information signals 602 are passed from the pointing device processor 500 to the main processor 202, and control signals 604 are passed from the main processor 202 to the pointing device processor 500.” *Id.* at 5:9–13. An information signal 602 is passed from input device element 204 to processor 500 in response to a user’s finger or other object moving across input device element 204. *Id.* at 5:28–32. Information signal 602 is used by main processor 202 to generate appropriate display signals. *Id.* at 5:35–37.

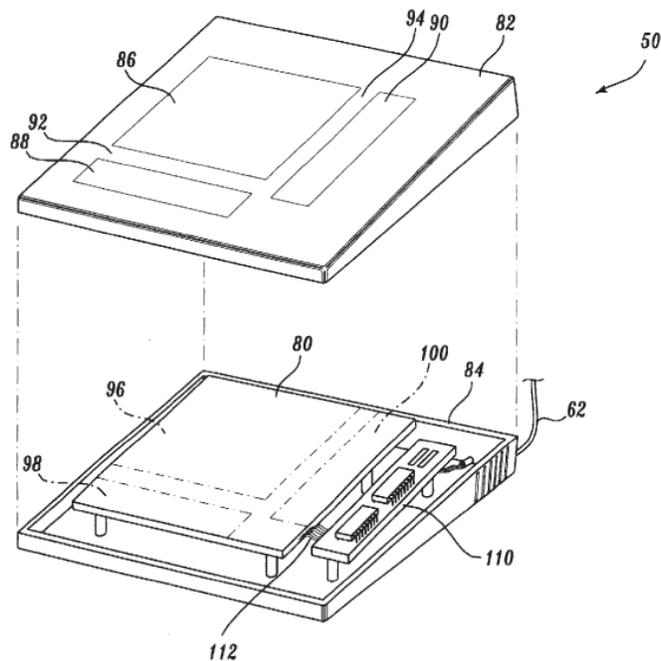
When pointer 108 (shown in Figure 1) is positioned over a selectable component, main processor will generate a control signal 604. *Id.* at 5:41–43. Control signal 604 is transmitted to processor 500, which determines whether the control signal is a vibration control signal or a bumper control signal and, based on the type of control signal, activates the appropriate motion inducer. *Id.* at 5:43–52. When vibrating source 502 is activated, it “will vibrate so that the vibration can be felt by the user when he or she

touches the pointing device 203,” thereby providing tactile feedback to the user. *Id.* at 5:55–59. Bumping source 504 causes a bumping sensation “that the user will feel and be able to distinguish from other tactile feedback from the pointing device 203.” *Id.* at 4:57–62.

3. *Overview of Stephan*

Stephan relates to computer touchpads or touch panels. Ex. 1006, 1:6–8. In particular, touchpad 50 is connected to computer 60 by cable 62. *Id.* at 5:14, Fig. 2. Touchpad 50 is divided into cursor control region 54, scroll control region 56, and pan control region 58. *Id.* at 5:22–6:37, Fig. 2. “Application of force by a user within the cursor control region generates a positional signal corresponding to the X,Y location of the force within the region.” *Id.* at 5:30–33. Stephan also discloses touchpad 260 integrated into a portable computer. *Id.* at 12:25–34, Fig. 12.

Figure 3 of Stephan is reproduced below.



*Fig. 3.*

Figure 3 is an exploded perspective view of touchpad 50. *Id.* at 4:40–41. Touchpad 50 includes touchpad member 80, which forms the three regions. *Id.* at 6:50–52. In response to an applied force, touchpad member 80 generates an electrical signal indicative of the X,Y location where the contact is made. *Id.* at 7:23–25. Circuit board 110, which is connected to touchpad member 80 by cable 112, “contains a processor, associated circuitry, and a firmware routine to convert the X, Y location and movement of the contact point by the user into appropriate control packets for transmission to the computer.” *Id.* at 7:25–30.

4. *Independent Claim 1*

For independent claim 1, Petitioner contends that the proposed combination of Beeks and Stephan discloses each of the limitations. Pet. 27–49. To support its arguments, Petitioner identifies certain passages in the cited references and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* We have reviewed Petitioner’s contentions with respect to the limitations of claim 1 and, at this stage of the proceeding, we agree with Petitioner’s analysis and adopt it as our own for purposes of this Decision.

Patent Owner argues that the challenged claims would not have been obvious in view of Beeks and Stephan. Prelim. Resp. 18–29. In particular, Patent Owner argues that the combination of Beeks and Stephan is deficient with respect to the limitation “said position signal representing a location in two dimensions.” *Id.* at 20–29. To support its arguments, Patent Owner relies on the Declaration of Allison Okamura, Ph.D. (Ex. 2001).

Regarding this limitation, Petitioner argues that

Beeks discloses a touch input device in the form of a touchpad that inputs a position signal to a processor of the computer based on the location of the user's touch. To the extent Beeks does not expressly disclose that "said position signal represent[s] a location in two dimensions," as claimed, representing position signals in two dimensions was well known, as evidenced in Stephan.

Pet. 38 (citing Ex. 1003 ¶ 123). Petitioner argues that Stephan discloses touchpad 80 having a planar surface that inputs a position signal to a computer processor in the form of circuit board 110 or the main processor of the computer. *Id.* at 38–39 (citing Ex. 1006, 7:7–33, Fig. 3; Ex. 1003 ¶¶ 115–119, 122). Petitioner adds that the signal generated by touchpad 80 is "indicative of the X,Y location where the contact occurred." *Id.* at 39 (quoting Ex. 1006, 7:23–25).

According to Petitioner, one of ordinary skill in the art would have understood that the terms "X" and "Y" represent coordinates in a two-dimensional Cartesian coordinate system such that Stephan's disclosure "suggests and demonstrates obviousness of 'said position signal representing a location in two dimensions.'" *Id.* at 40 (citing Ex. 1003 ¶ 125). Petitioner asserts that this conclusion "is true under any reasonable construction of 'position signal representing a location,' including the parties' agreed-upon district court construction of 'signal comprising coordinates of a location.'" *Id.* Petitioner also provides several reasons for why one of ordinary skill in the art would have incorporated these teachings of Stephan into Beeks. *Id.* at 40–42.

Patent Owner argues that Stephan's touchpad 80 does not provide *coordinates* of the X,Y location of the contact, and one of ordinary skill in

the art would have known that touchpad 80 provides analog voltage signals that are converted into digital form to calculate the coordinates of the contact. Prelim. Resp. 21 (citing Ex. 2001 ¶ 52). In particular, Patent Owner argues Stephan discloses that circuit board 110 contains a firmware routine for converting the X,Y location into appropriate control packets for transmission to the computer. *Id.* at 21–22 (citing Ex. 1006, 7:26–30). Thus, Patent Owner contends, touchpad member 80 sends analog voltage signals, but not the position itself, to circuit board 110. *Id.* at 21–22 (citing Ex. 1006, 7:26–30, 8:6–9). Referring to block 122 in Figure 4 of Stephan, Patent Owner also argues that “the firmware routine on the processor of circuit board 110—not the touchpad member 80—“DETERMINES XY POSITION.” Stephan distinguishes “XY position” from “X,Y positional information.” *Id.* at 23. According to Patent Owner, one of ordinary skill in the art “would understand from Stephan that touchpad member 80 inputs analog voltage signals (‘X,Y positional information’) to circuit board 110 for subsequent processing by firmware running on the processor on circuit board 110 (into ‘XY POSITION’).” *Id.* (citing Ex. 2001 ¶ 54).

We do not find this argument persuasive. First, the argument relies on Patent Owner’s assertion that “position signal representing a location” should be construed as “signal comprising coordinates of a location,” including Patent Owner’s implication that the coordinates must be two numbers encoded in some (unspecified) digital format. *See* Prelim. Resp. 12–18. We did not adopt this proposed claim construction, however, for the reasons discussed above. *See supra* § III.B. As noted by Petitioner, Stephan discloses that, in response to contact, “touchpad member 80 generates an

electrical signal indicative of the X,Y location where the contact occurred.”  
Ex. 1006, 7:23–25. On the current record, we determine that a signal that is *indicative* of the X,Y location of the contact *represents* the location in two dimensions.

Second, we are not persuaded by this argument even if we were to apply Patent Owner’s proposed construction. Namely, we are not persuaded by Patent Owner’s assertion that Stephan distinguishes the “X,Y positional information” (generated by touchpad member 80) and the “X,Y position” (determined by the firmware routine on the processor of circuit board 110). As noted above, Stephan discloses that “touchpad member 80 generates an electrical signal indicative of the X,Y location where the contact occurred.”  
Ex. 1006, 7:23–25 (emphasis added). Stephan also discloses a

firmware routine 120 that is operative in touchpad 50 to convert the X,Y positional information from the touchpad member into the control packets for transmission to computer 50. At a block 122, a control signal is *received from the touchpad member that is indicative of the X,Y position* of the contact with the touchpad member.

*Id.* at 8:6–12 (emphases added). Thus, Stephan discloses that the “X,Y location,” the “X,Y positional information,” and the “X,Y position” are all generated by touchpad member 80.<sup>8</sup> As such, we disagree that Stephan distinguishes “X,Y position” from “X,Y positional information.”

Also, Patent Owner’s argument is based on the assertion that, in Stephan, the signal generated by touchpad member 80 does not comprise coordinates, but the control packets do comprise coordinates. Prelim. Resp. 21–23. We are not persuaded, however, that the disclosure of Stephan

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<sup>8</sup> It appears that Stephan uses these three terms interchangeably.

supports this position. Stephan does not describe in detail how the control packets are derived from the signal generated by touchpad member 80, but it is not clear how the control packets could comprise coordinates if the signal from touchpad member 80 did not identify the coordinates in some manner. Also, Stephan does not appear to indicate expressly that the signal generated by touchpad member 80 does not comprise coordinates. Thus, on the current record, we determine that the signal generated by touchpad member 80 “comprises” X,Y coordinates in the sense that the signal is used to determine the X,Y location of contact.

Patent Owner does not offer any arguments specifically addressing the remaining limitations of claim 1. We have reviewed Petitioner’s contentions with respect to the remaining limitations of claim 1, and determine that the Petition provides the requisite showing, at this stage of the proceeding, that the combination of Beeks and Stephan discloses the subject matter of these limitations. *See* Pet. 27–38, 42–49.

For the foregoing reasons, we determine that the information presented in the Petition establishes that there is a reasonable likelihood that Petitioner would prevail in its assertion that claim 1 is unpatentable over the proposed combination of Beeks and Stephan.

5. *Dependent Claims 2, 4, 7, 13, 16, 18, and 19*

Because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the ’846 patent is unpatentable, we institute on all grounds and all claims raised in the Petition. *See SAS*, 138 S. Ct. at 1359–60; *SAS Guidance*. Further, Patent Owner offers no particular arguments for us to consider at this stage of the proceeding.

Therefore, it is not necessary for us to assess every ground raised by Petitioner. Nevertheless, we note that Petitioner provides reasonable and detailed explanations supported by the testimony of Mr. Ward and specific citations to Beeks and Stephan indicating where in the references the limitations of claims 2, 4, 7, 13, 16, 18, and 19 are disclosed. Pet. 50–70. For purposes of this Decision, we adopt Petitioner’s analyses of claims 2, 4, 7, 13, 16, 18, and 19 as our own. We determine that the information presented in the Petition establishes that there is a reasonable likelihood that Petitioner would prevail in its assertion that claims 2, 4, 7, 13, 16, 18, and 19 are unpatentable over the proposed combination of Beeks and Stephan.

*E. Asserted Obviousness based on Beeks, Stephan, and Bisset*

Claim 7 depends from claim 1 and recites the “touch input device is integrated in a housing of a handheld device operated by at least one hand of a user.” Ex. 1001, 17:57–59, 21. Petitioner contends claim 7 is obvious over Beeks, Stephan, and Bisset. Pet. 70–74.

Petitioner argues that Bisset discloses handheld computing device 300 having LCD display 306 presented on top face 302 and touchpad surface 312 presented on bottom face 310. *Id.* at 71 (citing Ex. 1007, 22:18–67). Petitioner also argues that, in Bisset, “the user grasps the handheld computing device with the left hand while viewing the display on the top face of the device and operating the touchpad on the bottom face with a finger of the right hand.” *Id.* at 73 (citing Ex. 1007, 24:4–14). According to Petitioner,

integration of Bisset’s above-discussed disclosure would have predictably produced a device having the same (or substantially similar) functionality as the Beeks-Stephan laptop, and with the added feature of a condensed form

factor, which would enable the user to hold the device with one hand and place the device within a purse or pocket for convenient transportation.

*Id.* at 72 (citing Ex. 1003 ¶ 156). Petitioner asserts that one of ordinary skill in the art would have been motivated “to pursue Bisset’s disclosure and incorporate it into the Beeks-Stephan combination by modifying the laptop form factor and further reducing it to an even smaller handheld device” for three reasons. *Id.* at 73–74. These reasons are: (1) “changes in size” and “making portable” are not inventive absent a corresponding change in function (*id.* at 73 (citing MPEP 2144.04(IV)(A), V(A))); (2) one of ordinary skill in the art would have appreciated and perceived the acute market for handheld computing devices (*id.* at 73–74 (citing Ex. 1003 ¶ 159; Ex. 1007, 4:4–9)); and (3) there is substantial evidence showing the United States military was developing various handheld computing devices for use on the battlefield, which is consistent with Beeks’ identification of the battlefield as a suitable environment for its device (*id.* at 74 (citing Ex. 1003 ¶¶ 160–161; Ex. 1005, 2:3–5)).

Patent Owner argues that this asserted ground does not address the fundamental flaw Patent Owner alleges in the Beeks-Stephan ground for claim 1. Prelim. Resp. 29. We do not find persuasive Patent Owner’s arguments regarding flaws in the combination of Beeks and Stephan with respect to claim 1, for the reasons discussed above. *See supra* § III.D.4. We note, however, that although the handheld device of Bisset and the laptop of the combination of Beeks and Stephan are both computing devices, they are different types of computing devices with distinct differences. Thus, based on the record before us, we are not persuaded at this point that Bisset’s

disclosure of handheld computing device 300 necessarily would have led one of ordinary skill in the art to reduce the size of the laptop of the Beeks-Stephan combination.

Nevertheless, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '846 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS* Guidance.

#### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review claims 1, 2, 4, 7, 13, 16, 18, and 19 of the '846 patent is instituted with respect to all 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(b), *inter partes* review of the '846 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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Patent 6,429,846 B2

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