

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and MOTOROLA MOBILITY LLC,
Petitioner,

v.

GLOBAL TOUCH SOLUTIONS, LLC,
Patent Owner.

Case IPR2015-01175
Patent 8,288,952 B2

Before JUSTIN BUSCH, LYNNE E. PETTIGREW, and
BETH Z. SHAW, *Administrative Patent Judges*.

BUSCH, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Apple Inc. and Motorola Mobility LLC (collectively, “Petitioner”) challenge the patentability of claims 1–4, 14, 16, 17, 19, 22–24, 26, 27, and 38–40 (“the challenged claims”) of U.S. Patent No. 8,288,952 B2 (Ex. 1001, “the ’952 patent”), owned by Global Touch Solutions, LLC (“Patent Owner”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that the challenged claims of the '952 patent are unpatentable.

A. Procedural History

Petitioner filed a Petition for *inter partes* review of the challenged claims of the '952 patent. Paper 3 ("Pet."). Patent Owner did not file a Preliminary Response. On November 17, 2015, we instituted an *inter partes* review of the challenged claims of the '952 patent. Paper 8 ("Institution Decision" or "Dec."). After institution, Patent Owner filed a Patent Owner Response, Paper 14 ("PO Resp."), and Petitioner filed a Reply to the Patent Owner Response, Paper 20 ("Pet. Reply"). A consolidated oral hearing for this case and several others was held on August 3, 2016. A transcript of the hearing has been entered into the record. Paper 34 ("Tr.").

B. Related Matters

The parties identify the following district court proceedings as related matters: *Global Touch Solutions, LLC v. Microsoft Corp.*, No. 3:15-cv-2750-JD (N.D. Cal.); *Global Touch Solutions, LLC v. Toshiba Corp.*, No. 3:15-cv-2746-JD (N.D. Cal.); *Global Touch Solutions, LLC v. VIZIO Inc.*, No. 3:15-cv-2747-JD (N.D. Cal.); *Global Touch Solutions, LLC v. Apple Inc.*, No. 3:15-cv-2748-JD (N.D. Cal.); and *Global Touch Solutions, LLC v. Motorola Mobility, LLC*, No. 3:15-cv-2749-JD (N.D. Cal.). Pet. 3; Paper 6, 2; Paper 7, 1–2. Petitioner also filed petitions for *inter partes* review of related U.S. Patent Nos. 7,994,726 (IPR2015-01171), 7,498,749 (IPR2015-01172), 7,329,970 (IPR2015-01173), and 7,781,980 (IPR2015-01174). Pet. 3; Paper 7, 2–3. Trials were instituted in those proceedings as well. The

parties also identify as a related matter IPR2015-01151, which is an ongoing *inter partes* review of the '952 patent filed by a different petitioner. Paper 6, 2; Paper 7, 3.

C. The '952 Patent

The '952 patent is directed to portable electronic devices that operate on exhaustible power sources such as batteries. Ex. 1001, Abstract. A visible indicator such as a light emitting diode (LED) can be used to indicate the condition of the battery. *Id.* at 9:46–54, Fig. 11.

D. Claims

Independent claim 1 is illustrative and is reproduced below, with formatting added:

1. A method of implementing a user interface of a product, the product comprising a power source, or a connection for a power source and at least one energy consuming load, said method including the step of

using an electronic module comprising an electronic circuit including a microchip and a touch sensor forming part of the user interface, said microchip at least partially implementing the touch sensor functions and said method including the step of

activating a visible indication in response to an activation signal received from the user interface, wherein the visible indication provides information to a user on at least one item from the following group:

a state or condition of the product,
location of the user interface,
a battery power level indication.

E. Grounds of Unpatentability Instituted for Trial

We instituted an *inter partes* review based on Petitioner's contentions that the challenged claims are unpatentable based on the following specific grounds:

References	Basis	Challenged Claims
Beard ¹ and Rathmann ²	35 U.S.C. § 103(a)	1–3, 16, 17, 19, 22–24, 26, 27, and 38–40
Beard, Rathmann, and Danielson ³	35 U.S.C. § 103(a)	4 and 14

Dec. 11.

II. DISCUSSION

A. Claim Construction

We construe explicitly only those claim terms or phrases in controversy, and we do so only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). We construe claim terms in an unexpired patent according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Consistent with the broadest reasonable construction, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). An inventor may provide a meaning for a term that is different from

¹ U.S. Patent 5,898,290, issued Apr. 27, 1999 (Ex. 1005, "Beard").

² U.S. Patent 5,955,869, issued Sept. 21, 1999 (Ex. 1006, "Rathmann").

³ U.S. Patent 5,710,728, issued Jan. 20, 1998 (Ex. 1007, "Danielson").

its ordinary meaning by defining the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Absent such a clear, deliberate and precise definition, it is one of the “cardinal sins” of patent law to import limitations from an embodiment in the specification into the claims. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1320 (Fed. Cir. 2005) (en banc).

In the Petition, Petitioner proposed a construction for “energy consuming load.” Pet. 8–9. Patent Owner did not file a Preliminary Response. In the Institution Decision, we determined the term “energy consuming load” did not require express construction, and we did not expressly construe any other claim terms. Dec. 4–5.

Patent Owner proposes a construction for “energy consuming load” and for various phrases that include the term “function[s].” PO Resp. 16–30. Patent Owner also proposes a construction for “user interface.” *Id.* at 15. As Petitioner points out, Patent Owner “proposes to construe ‘user interface,’ but it never applies this construction in its analysis and never explains why this construction could be relevant to any issue in this proceeding.” Pet. Reply 20. Accordingly, we determine “user interface” requires no explicit construction.

1. “energy consuming load”⁴

Patent Owner argues that “energy consuming load,” recited in claims 1 and 26, means “an energy consuming component that receives power from the power source under the control of the microchip.” PO Resp. 20.

Petitioner disagrees, arguing the claims do not recite using the microchip to control power to the load. Pet. Reply 3 (citing Ex. 1033, 99:17–22). Thus, Petitioner asserts, Patent Owner attempts to improperly import limitations from the Specification into the claims. *Id.* at 4–5. Moreover, Petitioner argues Patent Owner’s expert confirms that the ordinary meaning of “energy consuming load” is “any part of the product that consumes energy when the product is used.” *Id.* at 4 (citing Ex. 1034, 102:1–5 (deposition testimony of Dr. Robert E. Morley in related matter IPR2015-01150)). For the following reasons, we agree with Petitioner that the broadest reasonable construction of “energy consuming load” is its ordinary meaning, i.e., any part of the product that consumes energy when the product is used. Pet. 9.

We begin our analysis with the language of the claims. As Petitioner points out, the claim does not recite a microchip to control power to the load. Patent Owner’s expert, Dr. Morley, agrees that nothing in the claim

⁴ The “energy consuming load” is recited only in the preamble of claims 1 and 26 and not recited anywhere else in any of the challenged claims. Claim 1 is reproduced above. Claim 26 recites, in part, an “electronic module for use with a product, the product comprising . . . at least one energy consuming load.” The only other reference in the challenged claims to a load is in claim 16, which depends from claim 1 via its direct dependency from claim 2, and further recites “the method is applied to a product comprising the electronic user interface module, the power source and the load, with all enclosed or attached to a single product casing.”

language requires the energy consuming load to receive power under control of the microchip. Ex. 1033, 99:17–22.

We turn now to the written description of the '952 patent. We note the written description refers merely to a “load” and does not refer explicitly to an “energy consuming load,” which appears only in the claims. See Ex. 1001, 6:66–7:4. At oral argument, Patent Owner acknowledged that there is “no explicit lexicography definition” for the terms load and energy consuming load. Tr. 93:15, 94:6–7.

Because the patentee has not acted as his own lexicographer, we must consider whether the patentee has demonstrated an intent to deviate from the ordinary meaning of the claim term “energy consuming load” by including in the written description expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope. See *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365–66 (Fed. Cir. 2012); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). We have reviewed the portions of the written description cited in the Patent Owner Response and do not find any expressions of manifest restriction that limit the scope of “energy consuming load” to a load that receives power under control of the microchip.

Patent Owner argues that a load under the control of the microchip is the “very character of the invention” that requires us to limit the claims. PO Resp. 16 (citing *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003)). Patent Owner further contends “it is this very configuration that is central to the invention of the '952 patent, and is provided in the specification in distinction over the prior art.” *Id.* (citing Ex. 2002 ¶¶ 10–15). Patent Owner relies on a statement in the Specification of

the '952 patent stating that the invention provides “a microchip controlled switch to manage both the current conducting functions and the MMI [(man-machine-interface)] functions in an electronic device, such as a flashlight” Ex. 1001, 3:61–64; *see* PO Resp. 16. As Petitioner points out, however, this passage describes only what a “microchip controlled switch” does according to one embodiment; it does not define or otherwise limit the scope of “energy consuming load.” *See* Pet. Reply 5.

Patent Owner also cites portions of the '952 patent as allegedly distinguishing devices with microchip-controlled switches from prior art flashlights with conventional mechanical switches that directly connect a power source to a load. PO Resp. 16–18 (citing Ex. 1001, 3:33–38, 5:8–15, 7:23–29). But again, these passages describe features of switches; they do not indicate a clear disavowal of scope of the claim term “energy consuming load.” *See* Pet. Reply 6.

We cannot redraft the claims for the Patent Owner to try to cover unclaimed features described in the Specification, even if the feature was found in every embodiment. *See Ventana Med. Sys., Inc. v. BioGenex Labs., Inc.*, 473 F.3d 1173, 1181 (Fed. Cir. 2006) (refusing to read limitation found in all embodiments in the specification into the claims because “[w]hen the claim addresses only some of the features disclosed in the specification, it is improper to limit the claim to other, unclaimed features”); *see also E-Pass Techs., Inc. v. 3COM Corp.*, 343 F.3d 1364, 1370 (Fed. Cir. 2003) (refusing to read feature of every embodiment from specification into the claims because “[a]n invention may possess a number of advantages or purposes, and there is no requirement that every claim directed to that invention be limited to encompass all of them”). In the '952 patent, the patentee

expressly claimed a microchip that “at least partially implement[s] the touch sensor functions,” but chose not to claim an energy consuming load that receives power from a power source under control of the microchip.

Patent Owner does not allege that any prosecution history is helpful to ascertain the meaning of the “energy consuming load.” *See* Tr. 72:9–14. Petitioner points out that claims of Patent Owner’s related patents contradict Patent Owner’s proposed construction. Pet. Reply 8–10. When the patentee wanted to include a requirement that the microchip control the flow of power, it did so expressly and without leaving it implied in the term “energy consuming load.” For example, claim 52 of related U.S. Patent No. 7,329,970 recites “using the microchip to control the connection of the power source to the load.” Ex. 1035, 16:31–42.

We have considered the parties’ arguments and supporting evidence regarding the construction of the recited “energy consuming load.” For the reasons discussed, we agree with Petitioner that the scope of “energy consuming load” is not limited to a load that is under the control of the microchip, as asserted by Patent Owner.

2. “*function*”

Claims 1 and 26 recite, in part, a “microchip at least partially implementing the touch sensor[/sensing] functions.” Claim 1 recites activating “a visible indication in response to an activation signal received from the user interface,” and claim 26 recites the microchip is “configured to activate a visible indication in response to an activation signal received from the user interface.” Ex. 1001, 12:32–36, 14:2–5. Claim 2, which depends from claim 1, further recites the “method includes the selection and activation of *a function or mode of the product* in response to a further

activation signal(s) received from the user interface.” *Id.* at 12:42–45 (emphasis added). Claim 3, which depends from claim 2, and claim 24, which depends from claim 1, each further recite “automatically deactivating *a function* that was activated in response to an activation signal received from said user interface.” *Id.* at 12:47–49, 13:56–58 (emphasis added). Claim 22, which depends from claim 1, further recites “activating or deactivating *product functions* in response to signals received from the user interface.” *Id.* at 13:49–50 (emphasis added). The parties dispute whether “a function,” as recited in claims 2, 3, and 24, or the “product functions,” as recited in claim 22, encompass activating the visible indicator or whether “a function” and “product functions” must be some function(s) other than activation of the indicator.

Patent Owner first argues for a specific construction of “touch sensor functions” and “touch sensing functions,” as recited in independent claims 1 and 26, respectively. PO Resp. 20–24. Petitioner states “Global Touch does not explain how or why this construction is relevant to this proceeding,” such that “no specific construction is necessary.” Pet. Reply 19. Specifically, Petitioner’s challenges do not depend on a construction of the recited touch sensor/sensing functions broader than Patent Owner’s proposed construction. Accordingly, there is no dispute between the parties in this proceeding regarding the proper construction of touch sensor/sensing functions, and we do not construe explicitly those terms.

Patent Owner also argues that “a function or mode of the product,” as recited in dependent claim 2, should be construed as “function or mode of the product other than the visible indication.” PO Resp. 26. In support, Patent Owner argues the Specification of the ’952 patent describes the

visible indicator functionality “as a distinct and additional feature of the device in addition to control of other modes or functions,” and that “modes or functions other than the visible indicator are separately controlled by the user interface.” *Id.* at 25–26 (quoting Ex. 1001, 9:46–52, 10:26–35). With respect to claims 3, 22, and 24, Patent Owner again argues that the “function,” recited in claims 3 and 24, and the “product functions,” recited in claim 22, must be distinct from activating the visible indication, recited in claim 1, to avoid rendering claim language superfluous and because of the use of different terms (i.e., “function” versus “visible indication”). PO Resp. 27–28 (asserting “function” excludes activating or deactivating the “visible indication”), 29–30 (asserting “plural functions” should be construed to be different from activation or deactivation of the “visible indication” for similar reasons as argued with respect to the term “function,” recited in claims 3 and 24). Patent Owner also argues the activation signal recited in claims 3 and 24 is different than the activation signal recited in claim 1 because the recitation of “an activation signal” in claims 3 and 24 has no antecedent basis in any prior claim recitation. *Id.* at 28.

Petitioner agrees that activating a “function” and activating a “visible indication” have different meanings. Petitioner argues, and we agree, that “function” is a broad term that encompasses any type of function, while “activating a visible indication” is a specific type of function. Pet. Reply 17. Petitioner cites testimony of Patent Owner’s expert in support. *Id.* at 18 (citing Ex. 1033, 118:21–119:3; Ex. 1040 ¶ 50). Moreover, the Specification refers to “battery strength monitoring” as one example of a function. *Id.* at 18 (citing Ex. 1001, 1:57–59, 8:58–63).

We agree with Petitioner that Patent Owner’s attempt to narrow the term “function” to exclude activation of a visible indicator is contrary to the claims, the written description of the ’952 patent, and the testimony of Patent Owner’s own expert. Accordingly, we agree with Petitioner that the broadest reasonable interpretation of “function” is not limited to a function other than activating the visible indicator, as asserted by Patent Owner.

B. Obviousness of Claims 1–3, 16, 17, 19, 22–24, 26, 27, and 38–40 over the Combination of Beard and Rathmann

Petitioner contends that claims 1–3, 16, 17, 19, 22–24, 26, 27, and 38–40 are unpatentable under 35 U.S.C. § 103(a) as obvious over Beard and Rathmann. Pet. 30–55. Relying on the declaration testimony of Mr. Paul Beard, Petitioner explains how Beard and Rathmann allegedly teach all the claim limitations, and asserts an ordinarily skilled artisan would have combined the asserted teachings. *Id.* (citing Ex. 1003).

1. Beard

Beard describes an intelligent battery pack with a microcontroller and battery indicators for use with a portable electronic device. Ex. 1005, 1:18–21; see Ex. 1003 ¶ 68. The microcontroller responds to a touch-sensing circuit that detects changes in impedance or capacitance when an operator touches one or two contacts. Ex. 1005, 11:12–16; see Ex. 1003 ¶ 68. Figure 11 of Beard is reproduced on the following page.

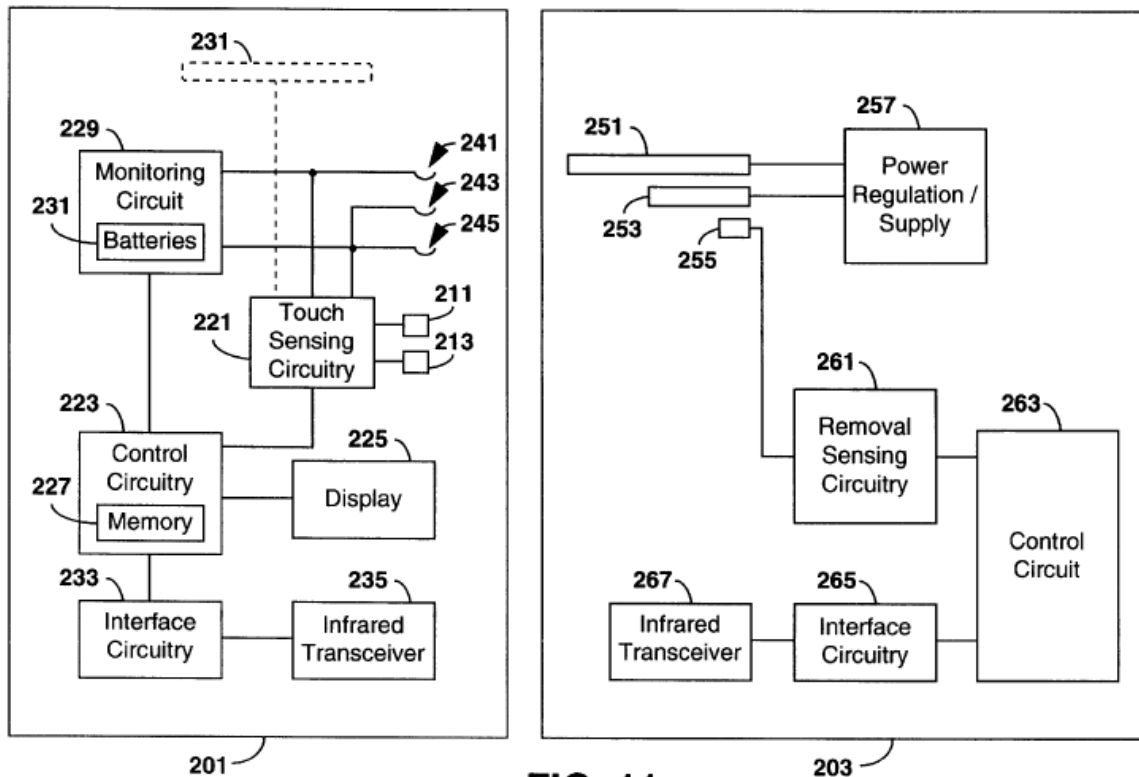


FIG. 11

Figure 11 depicts battery pack 201 that provides an operator with an indication of battery capacity whether or not it is inserted into portable electronic device 203. Ex. 1005, 11:10–13. When fully inserted, battery pack contacts 241, 243 and 245 engage corresponding contacts 251, 253 and 255, and, if sufficient power is available, device 203 may enter a fully operational state when the operator desires. *Id.* at 11:67–12:4.

2. Rathmann

Rathmann describes a “smart battery for use in an intelligent device having power management capabilities.” Ex. 1006, 1:12–16; 1:65–3:30. Rathmann’s indicator uses LEDs. In response to a signal from the battery pack’s user interface, four LEDs illuminate sequentially to indicate remaining battery charge. Ex. 1006, Fig. 3, 16:24–36; *see* Ex. 1003 ¶ 87.

3. Claim 1

Petitioner asserts the combination of Beard and Rathmann teaches all of the limitations of independent claim 1.

The Preamble

First, Petitioner contends Beard discloses a “method for implementing a user interface of a product” for various reasons, including because Beard teaches providing “a visible indication of the state of the product’s battery” in response to a user touching contacts. Pet. 27–28 (citing Ex. 1005, Abstract; Ex. 1003 ¶ 122). Patent Owner does not dispute Beard discloses this limitation.

Additionally, Petitioner contends Beard discloses battery pack 201 of Figure 11 and electrical connections that connect the battery pack to the energy consuming part of device 203, which teaches “the product comprising a power source, or a connection for a power source and at least one energy consuming load,” as recited in claim 1. Pet. 28. Petitioner contends Beard discloses the product comprises “at least one energy consuming load” because Beard discloses that the battery pack delivers electric charge energy to portable electronic device 203, which includes a load, such as any of the exemplary energy consuming components depicted in device 203 in Figure 11. Pet. 29 (citing Ex. 1005, 11:57–61). We agree with and adopt Petitioner’s contentions regarding Beard’s teachings of this limitation. *Id.* Patent Owner argues Beard does not teach at least one “energy consuming load” because the energy consuming components that Petitioner points to do not “receive power from the power supply *under the control of the control circuitry* 223 (alleged to correspond to the claimed microchip) or user interface of the battery pack 201.” PO Resp. 32. Patent

Owner's argument, however, depends on its proposed construction of "energy consuming load" as limited to a load under the control of a microchip, *see id.* at 30–45, a construction which we have not adopted. Patent Owner's expert, Dr. Morley, admits that if we do not adopt Patent Owner's limiting construction, Beard discloses an "energy consuming load" as recited in claim 1. Ex. 1033, 170:2–7. Thus, we find Patent Owner's argument to be unpersuasive.

The First Method Step
(The "using an electronic module" Step)

Petitioner further contends Beard discloses "said method including the step of using an electronic module comprising an electronic circuit including a microchip and a touch sensor forming part of the user interface, said microchip at least partially implementing the touch sensor functions" because Beard discloses "using battery pack 201 of Figure 11 which is an electronic module comprising electronic circuitry" when a user touches the contacts. Pet. 30 (citing Ex. 1005, 4:20–24, Fig. 11; Ex. 1003 ¶ 128), 32. Petitioner further explains that Beard's battery pack "includes a microchip and a touch sensor." *Id.* (citing Ex. 1003 ¶ 129). Petitioner argues Beard discloses the microchip implementing touch sensor functions because Beard's microchip controls "the display of charge status information upon detecting user input, a request, through the touch sensor." *Id.* at 31 (citing Beard 11:14–22, 11:31–33 Ex. 1003 ¶ 132).

The only aspect of this limitation Patent Owner disputes is whether Beard discloses a microchip that implements *multiple* touch sensor functions. PO Resp. 21–24. Petitioner contends Beard discloses its microchip activating multiple functions in response to input from the touch sensor. Pet. Reply 14. Specifically, Petitioner asserts Beard discloses

calculating and displaying battery capacity, calculating and displaying a remaining time estimate, and using a timer to determine when to deactivate a display. *Id.* at 14–15 (citing Ex. 1005, 11:31–40, 11:41–48, 10:51–54).

Petitioner also points to testimony from Patent Owner’s expert stating that determining battery capacity and remaining time are two different functions. *Id.* at 15 (citing Ex. 1033, 124:6–9, 126:2–14).

After reviewing the submitted arguments and evidence, we agree with Petitioner. We note Patent Owner’s expert further testified that calculating battery capacity is a part of calculating a remaining time estimate. Ex. 1033, 127:1–128:20. Nevertheless, even accepting that calculating battery capacity may be a part of, or required for, calculating a remaining time estimate, the evidence supports Petitioner’s position that calculating and displaying a remaining time estimate is a distinct function from calculating and displaying the battery capacity.

The Second Method Step
(The “activating a visible indication” Step)

Petitioner asserts the combination of Beard and Rathmann teaches or suggests the recited step of “activating a visible indication in response to an activation signal received from the user interface, wherein the visible indication provides information to a user on at least one” of a “condition of the product, location of the user interface, [or] a battery power level indication.” Ex. 1001, 12:34–41. Specifically, Petitioner contends Beard discloses microchip 223 activating visual display 225 to provide battery power information in response to a user touching contacts 211 and 213. Pet. 32 (citing Ex. 1005, 7:44–48, 11:14–22, 11:24–26, 11:31–33; Ex. 1003 ¶ 135). Petitioner further asserts the display of battery power level is both “a battery power level indication” and a “state or condition of the product,”

satisfying the second portion of the limitation requiring that the visible indication provide certain information. *Id.* at 31–34. Petitioner also asserts the LED used to display the battery power level information lights up when the user touches the contacts, providing the user information regarding the location of the user interface, which alternatively satisfies the second part of the limitation. *Id.* at 34 (citing Ex. 1005, 6:63–7:5, Figs. 5–6; Ex. 1003 ¶ 138).

Petitioner contends Rathmann provides additional detail regarding how the microchip controls the activation of the visible indication. Pet. 34–35. Petitioner articulates reasoning with a rational underpinning for combining the asserted teachings of Beard and Rathmann. Pet. 17–23.

Patent Owner does not dispute that the combination of Beard and Rathmann is proper or that the combination of Beard and Rathmann teaches the activating a visible indication step. We agree with and adopt Petitioner’s arguments regarding the specific teachings of Beard and Rathmann and the respective mapping of those teachings to the activating a visible indication step. Furthermore, we agree with Petitioner’s contention that an ordinarily skilled artisan would have looked to Rathmann’s more detailed disclosure regarding the activation of the visible indication under the control of the microchip at least for the reasons proffered by Petitioner. *See* Pet. 17–23. Accordingly, we determine Petitioner has demonstrated, by a preponderance of the evidence, that claim 1 would have been obvious in view of the combined teachings of Beard and Rathmann.

4. *Claim 26*

Petitioner argues independent claim 26 recites the same limitations as independent claim 1, except “in the context of a device claim.” Pet. 47

(citing Ex. 1003 ¶ 177). In fact, the structural limitations recited in independent claim 26⁵ each appear in method claim 1, and Petitioner has mapped various aspects of Beard and Rathmann to those elements, as discussed above with respect to claim 1. Therefore, for the same reasons as discussed above with respect to claim 1, we determine Petitioner has demonstrated, by a preponderance of the evidence, that claim 26 would have been obvious in view of the combined teachings of Beard and Rathmann.

5. *Claim 2*

Claim 2 depends from claim 1 and further recites “said method includes the selection and activation of a function or mode of the product in response to a further activation signal(s) received from the user interface.” Petitioner contends Beard discloses this additional limitation. Pet. 36–38. For the following reasons, we agree with and adopt Petitioner’s contentions regarding Beard’s teachings of this limitation.

Petitioner argues “Beard discloses selecting the function of providing battery power-level information in response to a further activation signal received from the user interface” because the user selects the function by touching contacts 211 and 213, and Beard displays the information on visual display 225 in response to the user touching the contacts. Pet. 36–37 (citing Ex. 1005, 7:44–48, 11:14–22, 11:31–33; Ex. 1003 ¶¶ 72, 73, 144). Petitioner further asserts the user may activate the indicator multiple times

⁵ Some terminology in claim 26 is slightly different than the terminology used in claim 1, but neither party argues the claims should be construed differently. See Ex. 1001, 12:27–41, 13:64–14:10. The differences in terminology in claims 1 and 26 do not affect our analysis of Petitioner’s challenges.

and that such repeated action of the user touching the sensors and displaying the information teaches the recited “selection and activation of a function or mode of the product in response to a further activation signal(s) received from the user interface.” *Id.* at 37–38.

Patent Owner argues the use of different terms (i.e., “function or mode of the product” and “visible indication”) require different constructions. PO Resp. 24–26. As discussed above, we disagree with Patent Owner’s position that the proper construction of function excludes activating a visible indication. Contrary to Patent Owner’s arguments, *id.* at 24, such a construction does not render claim 2 superfluous. Claim 2 recites an additional step of selecting and activating “a function or mode of the product.” Accordingly, although the recited language covers selection and activation of a function different than the visible indicator, the language of the method step in dispute also is broad enough to cover a repeated selection and activation of the visible indicator.

For the foregoing reasons, we determine Petitioner has shown, by a preponderance of the evidence, that claim 2 of the ’952 patent would have been obvious in view of the combined teachings of Beard and Rathmann.

6. *Claims 3 and 24*

Petitioner also contends, Pet. 39–39, 45–46, Beard discloses the additional limitation of dependent claims 3 and 24, which depend from claims 2 and 1, respectively, and further recite “automatically deactivating a function that was activated in response to an activation signal received from said user interface, a predetermined period of time after it was activated.” Ex. 1001, 12:46–50, 13:55–59. For the following reasons, we agree with and adopt Petitioner’s contentions regarding Beard’s teachings of these

limitations. *Id.* Patent Owner argues the combination of Beard and Rathmann does not teach delayed deactivation of a function *other than* the activation of the visible indicator. PO Resp. 50–51. Patent Owner’s argument, however, depends on its proposed construction of “function” as limited to a function other than activation of the visible indicator, *see id.* at 27–28, a construction which we have not adopted.

Moreover, even under Patent Owner’s proposed construction requiring the function to be something other than deactivating the visible indication, Petitioner contends Beard discloses the activation, and automatic deactivation 10 seconds later, of at least two functions in response to a user pressing the touch sensor, thus disclosing this limitation. Pet. Reply 14–16. We agree. Specifically, Beard discloses the calculation and display of battery capacity information and the calculation and display of remaining time. Ex. 1005, Fig. 9, 10:37–56.

Beard discloses that the function of calculating and displaying battery charge status is activated in response to an activation signal of a single touch contact in Figure 9 received from the user interface. *See, e.g.*, Ex. 1005, Fig. 9, 10:48–50 (“[T]he battery pack 155 utilizes a single touch contact 155 to initiate the delivery of charge status to an LCD display 157 for viewing.”). Beard discloses calculating and displaying charge status may include calculating and displaying *both* (1) available capacity and (2) projected remaining time estimates of battery life. *See, e.g., id.* at 10:37–40 (“FIG. 9 is a perspective view illustrating a further embodiment of the battery pack of FIG. 8 which includes an LCD (Liquid Crystal Display) screen that is used to display both available capacity and remaining time estimates.”). Beard also discloses that the charge status information display functions in Figure 9

automatically deactivate after 10 seconds. *See, e.g.*, Ex. 1005, 10:51–56 (“Moreover, a timing circuit prevents the contact 155 from holding the display 157 and associated circuitry in an active state for more than a ten (10) second interval. After the ten second display period, deactivation occurs whether or not the contact 155 is being touched.”).

Petitioner points to deposition testimony in which Patent Owner’s expert agrees that these two features are each different “functions.” Pet. Reply at 15 (citing Ex. 1032, 124:6–9, 126:2–22). This conclusion is consistent with Beard’s description of calculating and displaying battery capacity as a feature different from calculating and displaying a remaining time estimate. Ex. 1005, Abstract, 10:37–45, 11:45–48, 12:59–65. For example, Beard states that instead of—or in addition to—displaying the percentage of available battery capacity, the control circuitry interacts with the display to deliver the time estimates to the operator. *Id.* at 11:45–48. The fact that Beard describes that battery capacity can be calculated and displayed *instead* of time estimates evidences that calculation and display of battery capacity and calculation and display of time estimates are different functions. Thus, even under Patent Owner’s proposed narrower construction, this limitation is taught by Beard.

Patent Owner also contends the recitation of “an activation signal” in claims 3 and 24 “does not derive antecedent support from any prior claim recitation and thereby does not refer back to the same activation signal for activating the visible indication” and, therefore, must be different than “an activation signal” recited in claim 1. PO Resp. 28. Based on that assumption, Patent Owner asserts the function recited as being deactivated in claims 3 and 24 “was activated in response to an activation signal” different

than the activation signal recited in claim 1 and, accordingly, the function cannot be the visible indication. *Id.*

Patent Owner's contention is unpersuasive. "[A]n activation signal," as recited in claims 3 and 24, encompasses both the same signal as recited in claim 1 and a different signal. We decline to import the word "different" into claims 3 and 24. For the foregoing reasons, we determine Petitioner has shown, by a preponderance of the evidence, that claims 3 and 24 of the '952 patent would have been obvious in view of the combined teachings of Beard and Rathmann.

7. Claim 19

Petitioner further contends, Pet. 42–43, Beard discloses the additional limitation of dependent claim 19 which recites "wherein the power source is a battery and wherein the power source is enclosed in the product housing, and wherein the visible indication provides information to a user on the battery power level." Ex. 1001, 13:39–42. Petitioner asserts Beard's power source is a battery. Pet. 42 (citing Ex. 1005, 11:24–26; Ex. 1003 ¶¶ 123, 161). Figure 8 of Beard is reproduced on the following page.

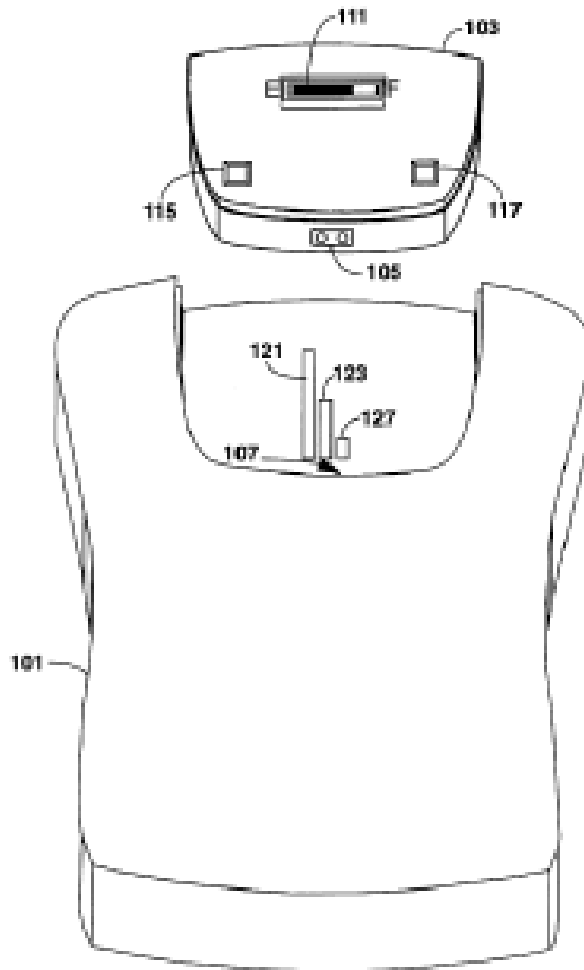


FIG. 8

Figure 8 of Beard depicts battery pack 103 that may be inserted in a slot in the bottom of portable terminal 101 to power the terminal. Ex. 1005, Fig. 8, 9:11–16. Thus, Petitioner contends, the “product housing” consists of the outer surfaces of battery pack 103 and portable terminal 101 when battery pack 103 has been “inserted into a portable electronic device” 101. Pet. 42–43.

Patent Owner argues batteries 231 in battery pack 201 and the components of device 203 are not included in the same housing. PO Resp.

52 (citing Ex. 2002 ¶ 66). Patent Owner further argues battery pack 103⁶ and portable terminal 101 are “entirely distinct and independent devices each contained in their own separate housings and operable separately from each other.” *Id.* Patent Owner argues the battery pack of Beard may be operated when removed from the terminal device, and the terminal device may be operated using a different power source than the battery pack. *Id.* at 53.

Petitioner responds that Beard describes two configurations: one, as shown in Figure 8, where the battery pack is removed and operated separately, and one, as described at column 9, lines 15 through 16, where the battery pack can be inserted into the larger device, in which case both are enclosed within the same outer housing. Pet. Reply 20–21 (citing Pet. 42–43).

We agree with and adopt Petitioner’s contentions regarding Beard’s teaching of the limitation of dependent claim 19. The claim recites, in part, “wherein the power source is enclosed in the product housing.” Claim 19 ultimately depends from claim 1, which recites a “method for implementing a user interface of a product, the product comprising a power source. . . .” Ex. 1001, 12:27–28. Thus, claim 1 explicitly recites that the power source *is part of* the claimed product. When the power source of Beard is inserted into the portable terminal, the “product housing” consists of the outer surfaces of the battery pack and the portable terminal. Thus, we agree Beard teaches the product housing consists of the outer surfaces of battery pack 103 and portable terminal 101 when battery pack 103 has been inserted into

⁶ Depending on the figure in Beard, the battery pack is referred to as item 103, 201, or 301. Ex. 1005, Figs. 8, 11, 12.

a portable electronic device 101. *See* Pet. 43. Accordingly, Beard teaches “wherein the power source is enclosed in the product housing,” as recited in dependent claim 19.

Finally, Petitioner contends Beard discloses “the visible indication provides information to a user on the battery power level” because Beard discloses displaying battery capacity. Pet. 43. We agree with Petitioner’s contentions.

For the foregoing reasons, we determine Petitioner has demonstrated, by a preponderance of the evidence, that claim 19 of the ’952 patent would have been obvious in view of the combined teachings of Beard and Rathmann.

8. Claim 22

Petitioner further contends, Pet. 43–44, Beard discloses the additional limitation of dependent claim 22, which further recites “the method also includes the step of activating or deactivating product functions in response to signals received from the user interface.” Ex. 1001, 13:49–51. Similar to its arguments with respect to claim 2, Petitioner asserts the user may activate the indicator multiple times and that such repeated action of the user touching the sensors and displaying the information teaches the additionally recited step of “activating or deactivating product functions in response to signals received from the user interface.” Pet. 44.

Patent Owner contends claim 22 requires the activation or deactivation of plural “product functions” that are different from activation or deactivation of the visible indication, whereas “the delivery of charge status information according to Beard is a *single* function.” PO Resp. 29–30; 54–55. Patent Owner further argues “the functions must be activated by

a different user interface activation signal than that for activating the visible indicator.” *Id.* at 55. For similar reasons as those discussed above, we do not find Patent Owner’s arguments persuasive. Specifically, we disagree with Patent Owner that the broadest reasonable interpretation of “activating . . . product functions” excludes activating a visible indicator. Moreover, as discussed above with respect to claim 3 and 24, Beard discloses multiple functions. Finally, similar to “an activation signal” recited in claims 3 and 24, the “signals” recited in claim 22 encompass both the same signal as recited in claim 1 and a different signal.

For the foregoing reasons, we determine Petitioner has shown, by a preponderance of the evidence, that claim 22 of the ’952 patent would have been obvious in view of the combined teachings of Beard and Rathmann.

9. Claims 16, 17, 23, 27, and 38–40

Patent Owner presents no additional arguments for claims 16, 17, 23, 27, and 38–40 beyond its arguments with respect to the claims from which they respectively depend. These additional claims recite: (1) “the method is applied to a product” where the components are all “enclosed or attached to a single product casing” (claim 16); (2) automatically deactivating the visible indication after a period of time (claim 23); (3) limitations on the information provided by the visible indication (claims 17, 27, 38, 39, and 40); and (4) the power source is a battery (claim 40). Ex. 1001, 13:29–35, 13:51–54, 14:11–15, 14:57–65. We have reviewed Petitioner’s assertions regarding the alleged disclosures of Beard, and we agree with and adopt Petitioner’s assertions regarding the combined teachings of Beard and Rathmann. As discussed above, we agree with Petitioner that an ordinarily skilled artisan would have looked to Rathmann for its additional details

regarding implementing the battery status indicator. For the foregoing reasons, we determine Petitioner has shown, by a preponderance of the evidence, that claims 16, 17, 23, 27, and 38–40 of the '952 patent would have been obvious in view of the combined teachings of Beard and Rathmann.

*C. Obviousness of Claims 4 and 14 over the
Combination of Beard, Rathmann, and Danielson*

1. Danielson

Danielson describes a portable data collection terminal system. Ex. 1007, Abstract, Fig. 2; Ex. 1003 ¶¶ 94, 107. Danielson describes various aspects of such terminal devices, including embodiments that have audio and radio frequency circuitry. Ex. 1007, 22:58–60; Ex. 1003 ¶ 94.

2. Analysis of Obviousness of Claims 4 and 14

Petitioner contends claim 4, which depends from claim 3, and claim 14, which depends from claim 2, are unpatentable under 35 U.S.C. § 103(a) as obvious over Beard, Rathmann, and Danielson. Pet. 58–59. Claims 4 and 14 further recite “the method is also used in a product comprising audio signal generating circuitry and radio frequency circuitry.” Ex. 1001, 12:51–53, 13:20–22. We do not address whether the additional limitation recited in claims 4 and 14 is merely an intended use or otherwise fails to further limit the method claims from which they respectively depend because Petitioner does not raise that issue. Relying on the testimony of Mr. Beard, Petitioner explains how Danielson teaches the additional limitation identically recited in each of claims 4 and 14. Pet. 58–59 (citing Ex. 1003). Specifically, Petitioner points to Danielson’s disclosure of an audio circuit device, a miniature speaker or buzzer, and a radio frequency transceiver. *Id.* (citing

Ex. 1007, 11:51–53, 17:9–13, 22:58–60, Figs. 13, 20). Petitioner further argues the disclosed circuitry is taught “in the broader context of an improved ‘portable, hand-held data collection terminal[]’ with a compact display format and versatile data input.” *Id.* (citing Ex. 1007, 3:45–52; Ex. 1003 ¶¶ 218, 224). Finally, Petitioner contends an ordinarily skilled artisan would have combined Beard and Danielson because, among other reasons, Danielson’s “device was specifically designed to work with the complementary Beard smart battery pack.” *Id.* at 23–26, 59. Patent Owner does not dispute Danielson’s alleged teachings or the rationale for combining Beard and Danielson. PO Resp. 56. Patent Owner merely asserts Danielson does not cure any of the previously asserted deficiencies of Petitioner’s challenges to claim 1, from which each of claims 4 and 14 ultimately depends. *Id.*

We have reviewed the parties’ arguments. We agree with and adopt Petitioner’s contentions regarding Danielson’s teaching of the additional limitation recited in each of claims 4 and 14. We also agree with and adopt Petitioner’s articulated reasoning with rational underpinning for combining the asserted teachings of Beard and Danielson. Accordingly, we conclude Petitioner has demonstrated, by a preponderance of the evidence, that claims 4 and 14 would have been obvious in view of the combined teachings of Beard, Rathmann, and Danielson.

III. CONCLUSION

Based on the evidence and arguments, Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–3, 16, 17, 19, 22–24, 26, 27, and 38–40 of the ’952 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Beard and Rathmann. Petitioner also has demonstrated, by a

preponderance of the evidence, that claims 4 and 14 of the '952 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Beard, Rathmann, and Danielson.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1–4, 14, 16, 17, 19, 22–24, 26, 27, and 38–40 of the '952 patent have been shown to be unpatentable; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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