

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 IPR2015-01174
Patent 7,781,980 B2

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

PETTIGREW, *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, 3–5, and 32 (“the challenged claims”) of

U.S. Patent No. 7,781,980 B2 (Ex. 1001, “the ’980 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 claims 1, 3–5, and 32 of the ’980 patent are unpatentable.

A. Procedural History

Petitioner filed a Petition for *inter partes* review of claims 1, 3–5, and 32 of the ’980 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 ’980 patent on all asserted grounds of unpatentability. 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 19 (“Pet. Reply”). A consolidated 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 33 (“Tr.”).

B. Related Matters

Petitioner identifies the following district court proceedings that may be affected by a decision in this proceeding: *Global Touch Solutions, LLC v. Toshiba Corp.*, No. 3:15cv2746-JD (N.D. Cal.); *Global Touch Solutions, LLC v. VIZIO, Inc.*, No. 3:15cv2747-JD (N.D. Cal.); *Global Touch Solutions, LLC v. Apple Inc.*, No. 3:15cv2748-JD (N.D. Cal.); *Global Touch Solutions, LLC v. Motorola Mobility LLC*, No. 3:15cv2749-JD (N.D. Cal.); *Global Touch Solutions, LLC v. Microsoft Corp., et al.*, No. 3:15cv2750-JD (N.D. Cal.). Paper 7, 1–2. Petitioner also filed petitions for *inter partes*

review of related U.S. Patent Nos. 7,994,726 B2 (IPR2015-01171), 7,498,749 B2 (IPR2015-01172), 7,329,970 B2 (IPR2015-01173), and 8,288,952 B2 (IPR2015-01175). *Id.* at 2–3. Trials were instituted in those proceedings as well. In addition, Petitioner identifies as a related matter IPR2015-01150, which is a petition for *inter partes* review of the '980 patent filed by a different petitioner. *Id.* at 3.

C. The '980 Patent

The '980 patent is directed to portable electronic devices that operate on exhaustible power sources such as batteries. Ex. 1001, Abstract. The '980 patent describes using a microchip-controlled switch that manages user-interface functions and current-conducting functions in an electronic device such as a flashlight without the switch itself conducting current to the load. *Id.* at 3:58–63. The '980 patent also describes an embodiment in which a visible indicator such as a light emitting diode (LED) may be provided to indicate the condition of the battery. *Id.* at 9:46–54, Fig. 11.

D. Illustrative Claim

Claim 1, the only independent claim of the '980 patent, is illustrative and reads:

1. An electronic module for use with a product, said product comprising a power source or a connection for a power source, and an energy consuming load, said module also comprising,

a circuit comprising a microchip and a touch sensor forming part of a user interface, wherein the microchip also controls a visible indicator that is activated in response to an activation signal received from the user interface when the load is not activated by the user.

Id. at 12:28–36.

E. Grounds of Unpatentability Instituted for Trial

We instituted an *inter partes* review of claims 1, 3–5, and 32 of the '980 patent on the following grounds of unpatentability:

References	Basis	Challenged Claims
Beard ¹ and Rathmann ²	35 U.S.C. § 103(a)	1, 3, and 32
Beard, Rathmann, and Danielson ³	35 U.S.C. § 103(a)	4 and 5

Dec. 11.

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, 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); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144 (2016) (holding that 37 C.F.R. § 42.100(b) “represents a reasonable exercise of the rulemaking authority that Congress delegated to the Patent Office”). 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 No. 5,898,290, issued Apr. 27, 1999 (Ex. 1005, “Beard”).

² U.S. Patent No. 5,955,869, issued Sept. 21, 1999 (Ex. 1006, “Rathmann”).

³ U.S. Patent No. 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).

In the Institution Decision, we adopted Petitioner’s proposed construction of “mains” as encompassing “the power source provided by a main distribution network, such as a utility.” Dec. 5 (citing Pet. 9–10). Patent Owner agrees with that construction. PO Resp. 13–14. After considering the complete record, we maintain this construction of “mains” for this Final Written Decision.

Petitioner and Patent Owner propose constructions for additional claim terms. Pet. 8–10; PO Resp. 14–21. Based on the parties’ claim construction arguments, we construe the disputed claim language to the extent set forth below. No other claim terms require express construction.

1. “*energy consuming load*”

Patent Owner argues that “energy consuming load,” recited in independent claim 1, means “an energy-consuming component that receives power from the power source under the control of the microchip.” PO Resp. 20. According to Patent Owner, this is the broadest reasonable construction because the “very character of the invention” disclosed in the ’980 patent is a microchip-controlled switch that manages conducting of current to the load. *Id.* at 15–20. Petitioner disagrees, arguing that the claims do not require the microchip to control power to the load. Pet. Reply 3. Thus, Petitioner contends, Patent Owner attempts to improperly import limitations from the specification into the claims. *Id.* at 4–7. Moreover, Petitioner argues, Patent Owner’s own 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 3 (citing Ex. 1036, 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 the term “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 claims do not contain any language requiring the energy consuming load to receive power under the control of the microchip. *See id.* Claim 1, for example, recites a “product containing a power source or a connection for a power source, and an energy consuming load.” Ex. 1001, 12:28–30. Claim 1 further recites a circuit comprising a microchip and provides that the microchip “controls a visible indicator that is activated in response to an activation signal received from the user interface when the load is not activated by the user.” *Id.* at 12:32–36. Thus, the claim requires the microchip to control a visible indicator, but nothing in the claim requires the microchip to control power to the energy consuming load. Patent Owner’s expert, Dr. Morley, agrees that the claim language does not explicitly require the microchip to control anything except the visible indicator. Ex. 1035, 98:13–21.

We turn now to the written description of the ’980 patent. Initially, we note that the written description does not refer explicitly to an “energy consuming load,” a term that appears only in the claims of the ’980 patent. Instead, the written description merely refers to a “load.” *E.g.*, Ex. 1001, 6:66–7:4, Fig. 1 (“load 105”). As counsel for Patent Owner acknowledged

at oral argument, the '980 patent does not contain an “explicit lexicography definition” of either “energy consuming load” or “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. First, Patent Owner relies on the following sentence from the Summary of the Invention: “According to one embodiment of the present invention, there is provided a microchip controlled switch to manage both the current conducting functions and the MMI⁴ functions in an electronic device, such as a flashlight” Ex. 1001, 3:58–61; *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 '980 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

⁴ “MMI” refers to “man-machine-interface.” Ex. 1001, 3:37–38.

Ex. 1001, 3:30–35, 5:4–11, 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 5.

Patent Owner further contends that “[e]very single embodiment disclosed in the ’980 [p]atent includes such a microchip-controlled switch that manages conducting of current to the load.” PO Resp. 18 (citing Ex. 1001, 3:58–63, 6:66–7:4, 7:17–31, 8:56–63, 9:4–12, Figs. 1–17). Thus, Patent Owner argues, a load that receives power under control of the microchip is the “very character of the invention,” requiring us to limit the scope of “energy consuming load.” *Id.* at 11–12, 19 (citing *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1369–70 (Fed. Cir. 2003)). However, we cannot redraft claims for Patent Owner to try to cover unclaimed features described in the specification, even if the feature is found in every disclosed embodiment. See *Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1181 (Fed. Cir. 2006) (declining to read feature found in all disclosed embodiments into 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 (“An 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 ’980 patent, the patentee expressly claimed a microchip that controls a visible indicator, but chose not to claim an energy consuming load that receives power from a power source under control of the microchip.

Furthermore, Patent Owner does not allege that any prosecution history is helpful to ascertain the meaning of “energy consuming load.” See

Tr. 72:9–14. Petitioner points out that claims of Patent Owner’s related patents actually contradict Patent Owner’s proposed construction. Pet. Reply 7. For example, claim 52 of U.S. Patent No. 7,329,970 B2 (Ex. 1037, “the ’970 patent”)⁵ recites “using the microchip *to control the connection of the power source to the load* and the activation of the indicator,” where “load” refers to an “energy consuming load” and “indicator” refers to a “visible luminous indicator,” both recited earlier in the claim. Ex. 1037, 16:32, 16:37–39 (emphasis added). Thus, when the patentee wished to include a requirement that the microchip control both the flow of power to the energy consuming load and the visible indicator, the patentee did so expressly without leaving it implied in the claim term “energy consuming load.” See Pet. Reply 7–8.

We have considered all of the parties’ arguments and supporting evidence regarding the construction of “energy consuming load” as recited in claim 1. For the reasons discussed, we agree with Petitioner that the scope of “energy consuming load” is not limited to a load that receives power under the control of the microchip, as asserted by Patent Owner. Rather, we agree with Petitioner that the broadest reasonable construction of “energy consuming load” is “any part of the product that consumes energy when the product is used.”

2. “*activation and deactivation functions*”

Independent claim 1 recites “a visible indicator that is activated in response to an activation signal received from the user interface when the load it not activated by the user.” Ex. 1001, 12:34–36. Claim 4 depends

⁵ The ’970 patent is the subject of related case IPR2015-01173.

from claim 1 and further recites “wherein the user interface enables selection of activation and deactivation functions of the product.” *Id.* at 12:42–44. The parties dispute whether the “activation and deactivation functions” of claim 4 encompass activation and deactivation of the visible indicator, or whether the “activation and deactivation functions” must be functions distinct from activation and deactivation of the visible indicator. PO Resp. 20–21; Pet. Reply 15–17.

Patent Owner argues that the “functions” in claim 4 must be different from activation of the visible indicator because different terms are used in the claims and because any other interpretation would render claim 4 superfluous. PO Resp. 20–21. We are not persuaded by Patent Owner’s arguments. Instead, we agree with Petitioner that “function” in claim 4 is a broad term that encompasses any kind of function, while “activation of a visible indication” is a specific type of function. *See* Pet. Reply 15. Patent Owner’s expert, Dr. Morley, agrees that activation of a visible indicator to indicate a battery condition is an example of a “function” in the context of Patent Owner’s patents. Ex. 1035, 118:21–119:3; *see* Pet. Reply 16. Moreover, the written description of the ’980 patent uses the term “function” broadly and identifies “battery strength monitoring” as but one example of a function. Ex. 1001, 1:54–56, 8:58–63; *see* Pet. Reply 16.

For these reasons, we agree with Petitioner that Patent Owner’s attempt to narrow the claim term “function” to exclude activation of a visible indicator is contrary to the claim language, the written description of the ’980 patent, and the testimony of Patent Owner’s own expert. Thus, we agree with Petitioner that the broadest reasonable construction of “function”

is not limited to a function other than activation of the visible indicator, as asserted by Patent Owner.

*B. Obviousness over Beard and Rathmann
Claims 1, 3, and 32*

Petitioner contends that claims 1, 3, and 32 are unpatentable under 35 U.S.C. § 103(a) as obvious over Beard and Rathmann. Pet. 19–24, 28–39. Relying in part on the testimony of Mr. Paul Beard, Petitioner explains how the combination of Beard⁶ and Rathmann allegedly teaches all the claim limitations and contends that a person having ordinary skill in the art would have been motivated to combine the teachings of the references. *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 a pair of contacts. Ex. 1005, 7:41–52, 11:12–16; see Ex. 1003 ¶ 68. Figure 11 of Beard is reproduced below.

⁶ Petitioner’s expert, Mr. Paul Beard, is the first named inventor on the Beard patent. See Ex. 1005.

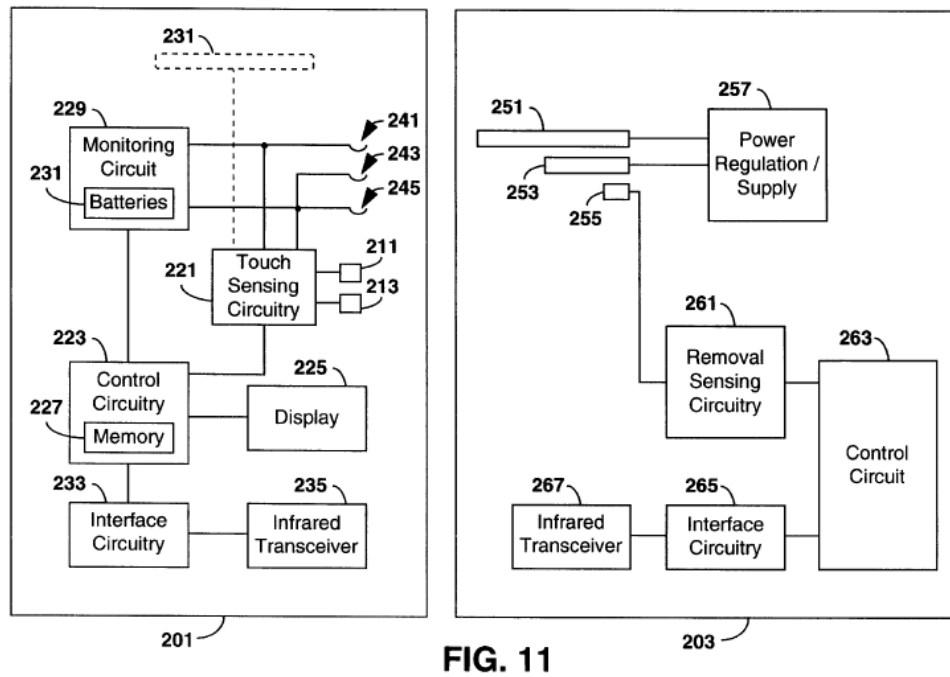


Figure 11 is a schematic block diagram depicting circuitry used in battery pack 201 and portable device 203. Battery pack 201 provides an operator with an indication of battery capacity whether or not it is inserted into portable electronic device 203. Ex. 1005, 11:10–13. When fully inserted, battery pack contacts 241, 243, and 245 engage corresponding portable device 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. The battery pack in Rathmann includes a microcontroller, a battery-power indicator comprising LEDs, and a user-interface switch. *Id.* at 1:65–2:2, 3:1–7, 16:24–36, Fig. 3 (microprocessor 50, LEDs 34, and manual switch 35). In response to a signal from the battery pack’s user interface, four

LEDs illuminate sequentially to indicate remaining battery charge. *Id.* at 16:24–36; *see* Ex. 1003 ¶ 87. Rathmann provides detailed instructions on how the microprocessor implements illumination of the correct number of LEDs based on battery charge. Ex. 1006, 58:31–59:32, Fig. 34; *see* Ex. 1003 ¶¶ 88–89.

3. Claim 1

Petitioner asserts that the combination of Beard and Rathmann teaches all of the limitations of independent claim 1. Pet. 28–36. Beginning with the preamble, Petitioner contends that Beard describes the recited “electronic module” (Beard’s intelligent battery pack 201) “for use with a product” (electronic device 203) that comprises a “connection for a power source” (contacts 251, 253, and 255 engaging corresponding contacts 241, 243, and 245 of battery pack 201). *Id.* at 28–30. Petitioner also contends that Beard describes an “energy consuming load,” e.g., any of the energy consuming components in device 203 in Figure 11 or in one of the other portable electronic devices depicted in Beard. *Id.* at 30 (citing Ex. 1005, 1:57–61, Figs. 4, 5, 8, 11). We agree with and adopt Petitioner’s contentions regarding Beard’s disclosure of these limitations as set forth in the Petition. *See id.* at 28–30.

Patent Owner argues that Beard does not teach an “energy consuming load” because the energy consuming components of device 203 do not receive power under control of control circuitry 223 of battery pack 201. PO Resp. 36. This argument, however, depends on Patent Owner’s proposed construction of “energy consuming load” as limited to a load that receives power under control of a microchip, a construction we have not adopted. *See id.* 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. 1035, 170:2–7. Thus, we find Patent Owner's argument to be unpersuasive.

As for the remaining limitations of claim 1, we agree with Petitioner that Beard's battery pack 201 comprises a "circuit comprising a microchip" (in the form of control circuit 223) and a "touch sensor forming part of a user interface" (touch sensing circuitry 221 and touch contacts 211 and 213). See Pet. 30–31 (citing Ex. 1005, 4:20–24, 11:12–22). We also agree with Petitioner that Beard's microchip (control circuit 223) "controls a visible indicator" (indication of battery charge status on display 225) "that is activated in response to an activation signal received from the user interface" (touch sensing circuit 221 detecting the operator touching contacts 211 and 213). See *id.* at 32–33 (citing Ex. 1005, 7:44–48, 11:14–22, 11:32–33, 11:44–47). Patent Owner does not dispute that Beard discloses these limitations. See PO Resp. 37–42.

Petitioner further contends that Beard teaches a microchip that activates the visible indicator in response to an activation signal "when the load is not activated by the user," as recited in claim 1. *Id.* at 33–34. Specifically, Petitioner relies on an embodiment in Beard in which the microchip (Beard's control circuit 223) provides charge status information based on previously monitored load characteristics stored in memory rather than obtaining these characteristics from the electronic device itself. *Id.* at 34 (citing Ex. 1005, 11:23–30; Ex. 1003 ¶ 143). This arrangement allows Beard's battery pack to provide an operator touching the contacts "with an indication of battery capacity whether or not it is inserted into a portable electronic device." Ex. 1005, 11:10–12; see Pet. 34; Ex. 1003

¶ 144. According to Petitioner, these disclosures in Beard teach that activating the visible indication of battery capacity can be accomplished without the user activating the load. Pet. 34.

Patent Owner argues that Beard does not teach activating an indicator “when the load is not activated by the user” because, in Patent Owner’s view, “Beard discloses a terminal device that is operational and draws power whenever the batter[y] pack is connected thereto.” PO Resp. 38. Patent Owner cites several passages from Beard to support its argument. *Id.* at 37–38 (citing Ex. 1005, 9:38–41, 10:4–7, 10:27–30, 11:67–12:4, 12:19–24). Relying on some of the same passages, Petitioner disputes that all of the energy consuming components in Beard’s terminal device are activated when the battery pack is inserted. Pet. Reply 20–21 (citing Ex. 1005, 10:5–7, 12:2–4). In particular, Petitioner points to Beard’s disclosure that “[w]hen fully inserted, the battery pack contacts 241, 243 and 245 engage the corresponding contacts 251, 253 and 255, and, if sufficient power is available, the device 203 *may* enter a fully operational state when the operator so desires.” Ex. 1005, 11:67–12:4 (emphasis added). We agree with Petitioner that this statement suggests Beard’s electronic device may not be fully operational when the battery pack is inserted, and touching the contacts to obtain charge status information during this time would activate the visible indicator when the load (an energy consuming component of Beard’s device) is not activated, just as it would when the battery pack is not inserted in the device. See Pet. Reply 20–21.

Finally, we agree with Petitioner that a person of ordinary skill in the art would have looked to Rathmann for additional details about how the microchip (Beard’s control circuitry) controls the visible indicator in

response to an activation signal from a user interface. *See* Pet. 34–35 (citing Ex. 1006, 16:24–29, 58:31–59:32, Fig. 34; Ex. 1003 ¶¶ 87–89, 145–46). For example, Rathmann describes a visible indicator of between one and four LEDs that illuminate to indicate battery capacity in successive 25% intervals relative to a full charge of 100%. Ex. 1006, 16:24–38; *see* Pet. 35. We also agree with and adopt Petitioner’s articulated reasoning for combining Beard and Rathmann. *See* Pet. 19–24.

For the foregoing reasons, we conclude that Petitioner has shown by a preponderance of the evidence that claim 1 would have been obvious over the combination of Beard and Rathmann.

4. *Claim 3*

Claim 3 depends from claim 1 and further recites “wherein the power source is non-mains and contained in the product housing.” Ex. 1001, 12:42–44. We agree with and adopt Petitioner’s contentions regarding Beard’s teachings of the additional limitations of claim 3. *See* Pet. 36–38. First, Beard’s disclosed power source is non-mains because it is a battery pack rather than power provided by a main distribution network, such as a utility. *See id.* at 36. Second, Beard discloses a power source “contained in the product housing” when the battery pack is inserted into a portable terminal device. *See id.* at 36–38. For this limitation, Petitioner relies on the configuration shown in Figure 8 of Beard, reproduced below.

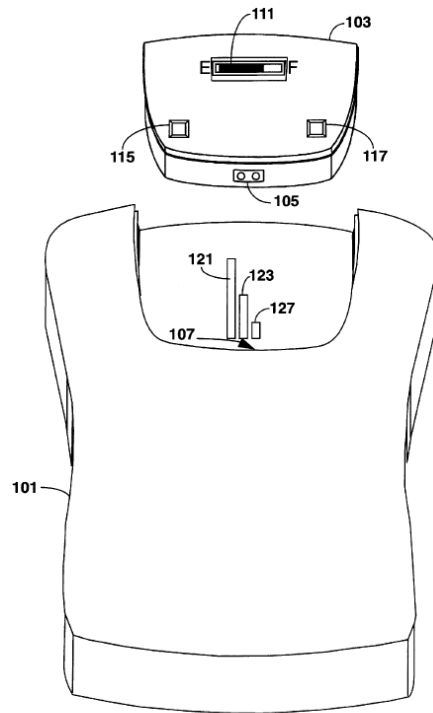


FIG. 8

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, 9:15–16, Fig. 8. Petitioner contends that the “product housing” consists of the outer surfaces of battery pack 103 and portable terminal 101 together when the battery pack has been inserted into the terminal. Pet. 37.

Patent Owner argues that battery pack 103 and terminal 101 do not share a housing. PO Resp. 43. In Patent Owner’s view, the battery pack and terminal “are entirely distinct and independent devices each contained in their own separate housings and operable separately from each other.” *Id.* For example, Patent Owner continues, “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 from the battery pack.” *Id.* at 44.

We are not persuaded by Patent Owner's argument. Claim 3 depends from claim 1, which explicitly recites that the power source *is part of* the claimed product. Ex. 1001, 12:28–29 (“said product comprising a power source”). Thus, when Beard's power source (battery pack) is inserted into the portable terminal, the product consists of the battery pack and portable terminal together, and the “product housing” consists of the outer surfaces of the battery pack and portable terminal together. Thus, Beard teaches a power source contained in the product housing, as claim 3 requires. Accordingly, we conclude that Petitioner has shown by a preponderance of the evidence that claim 3 would have been obvious over the combination of Beard and Rathmann.

5. Claim 32

Claim 32 depends from claim 1 and further recites “wherein the indicator also shows a state or condition of the product.” Ex. 1001, 14:18–19. Petitioner asserts that Beard discloses an indicator that “shows a state or condition of the product” when it shows the current state or condition of the product's battery pack. Pet. 38 (citing Ex. 1005, 11:24–26, 11:32–34). Patent Owner does not present any arguments with respect to this claim other than those already discussed. See PO Resp. 21–42. We agree with and adopt Petitioner's contentions with respect to this claim. Accordingly, we conclude that Petitioner has shown by a preponderance of the evidence that claim 32 would have been obvious over the combination of Beard and Rathmann.

*C. Obviousness over Beard, Rathmann, and Danielson
Claims 4 and 5*

Petitioner contends that claims 4 and 5 are unpatentable under 35 U.S.C. § 103(a) as obvious over Beard, Rathmann, and Danielson. Pet. 24–27, 39–45. Relying on the testimony of Mr. Beard, Petitioner explains how the combination of Beard, Rathmann, and Danielson allegedly teaches all the claim limitations and contends a person having ordinary skill in the art would have been motivated to combine the teachings of the references. *Id.* (citing Ex. 1003).

1. Danielson

Mr. Beard is a named inventor on the Danielson patent. Ex. 1007. Danielson describes a portable data collection terminal system that may be powered by the intelligent battery pack disclosed in Beard. *Id.* at Abstract, Fig. 2; see Ex. 1003 ¶¶ 94, 107–08. Danielson describes various aspects of such terminal devices, including an on/off switch. Ex. 1007, 22:65–66; see Ex. 1003 ¶¶ 162–63.

2. Claim 4

Claim 4 depends from claim 1 and further recites “the user interface enables selection of activation and deactivation functions of the product.” Ex. 1001, 12:42–44. We agree with Petitioner that the combination of Beard, Rathmann, and Danielson teaches this limitation in at least two ways. See Pet. 39–42. First, Petitioner relies on Beard’s touch sensor (touch sensing circuitry 221 and touch contacts 211 and 213) that enables a user to select an activation function—activation of the display of battery power-level information. *Id.* at 40 (citing Ex. 1005, 11:12–22, 11:24–26, 11:32–34; Ex. 1003 ¶ 160). Beard’s touch sensor also enables selecting a deactivation

function—deactivation of the display—because a timing circuit automatically deactivates the battery power level display ten seconds after activation. *Id.* at 40–41 (citing Ex. 1005, 10:48–56; Ex. 1003 ¶ 161).

Second, in addition to the touch sensor circuitry in Beard, Petitioner relies on Danielson’s disclosure of an on/off switch that can be used to activate and deactivate the product. *Id.* at 41–42 (citing Ex. 1007, 22:65–66; Ex. 1003 ¶ 163).

Patent Owner argues that Beard and Danielson do not teach the limitation of claim 4 because they “do not disclose or suggest one user interface that enables selection of plural different functions as well as activation of a visible indicator,” which Patent Owner contends are required separately by independent claim 1. PO Resp. 46. We disagree with Patent Owner for the following reasons. First, Patent Owner’s argument depends on its proposed claim construction of “function” in claim 4 as limited to a function other than activation of the visible indicator. *Id.* at 20–21, 47. As discussed above, we have not adopted that construction. Thus, Beard’s battery power level display can be both the visible indicator that is activated in claim 1 and the activation function recited in claim 4. In addition, claim 4 recites “activation and deactivation functions,” not “plural different functions.” Beard’s touch sensor enables selection of both an activation function, i.e., display of the battery capacity, and a deactivation function, i.e., deactivation of the battery capacity display.

Moreover, even under Patent Owner’s proposed construction requiring an activation function that is different from activation of the visible indicator, Petitioner contends Beard discloses the activation, and automatic deactivation ten seconds later, of two discrete functions in response to a user

pressing the touch sensor: (1) calculation and display of battery capacity (the claimed visible indicator), and (2) calculation and display of a remaining time estimate. Pet. Reply 14–15 (citing Ex. 1005, 10:37–40, 11:45–48, 12:59–65). We agree. Specifically, Beard discloses that the function of calculating and displaying battery charge status is activated in response to an activation signal of a touch sensor. *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 also discloses that calculating and displaying charge status may include calculating and displaying *both* (1) available capacity and (2) projected remaining time estimates of battery life. *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 further discloses that the charge status information in Figure 9 automatically deactivates after ten seconds. *See, e.g., id.* at 10:51–56.

Petitioner points to deposition testimony in which Patent Owner’s expert agrees that these two features are different “functions.” Pet. Reply 14–15 (citing Ex. 1035, 126:16–22). 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. Beard’s disclosure 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 remaining time estimates are different functions. Thus, even under Patent Owner's proposed narrower construction, Beard teaches the limitation of claim 4.

Patent Owner further argues that Danielson's on/off switch does not meet this limitation because claim 4 requires a "single" user interface that enables selection of activation and deactivation functions and activates the visible indicator recited in claim 1. PO Resp. 47–49. Specifically, Patent Owner argues that Beard's battery pack and portable electronic device (of which Danielson is an example) are distinct and independent devices in their own separate housings. *Id.* at 47–48. Thus, in Patent Owner's view, Danielson's on/off switch is not part of the same user interface as the touch contacts on Beard's battery pack. *Id.*

We do not agree with Patent Owner's argument, which depends on a construction of "user interface" as limited to a "single" component. Claim 4 depends from independent claim 1, which merely requires "a touch sensor forming *part of* a user interface." Ex. 1001, 12:32–33 (emphasis added). By specifying that the touch sensor forms one "part of" a user interface, the claims encompass a user interface with multiple parts or components. Thus, the user interface is not limited to a single component, as Patent Owner argues, but instead can have multiple parts, one of which is a touch sensor. Patent Owner's expert agrees that a user interface is simply "an interface on a device that allows a user to interact with the device." Ex. 1035, 151:24–152:3. He also agrees that a user interface could be made up of multiple components, such as a keyboard and an "on/off switch above [the] keyboard." *Id.* at 136:16–137:4. Thus, under a proper construction of "user

interface,” the on/off switch of Danielson’s portable terminal device and the touch sensor of Beard’s battery pack, which is inserted into Danielson’s device, are part of the same user interface. *See* Pet. Reply 18.

For these reasons, we agree with Petitioner that the combination of Beard, Rathmann, and Danielson teaches the limitation of claim 4. We also agree with and adopt Petitioner’s articulated reasoning for combining Danielson with Beard and Rathmann, which Patent Owner does not dispute. *See* Pet. 24–27. Accordingly, we conclude that Petitioner has shown by a preponderance of the evidence that claim 4 would have been obvious over the combination of Beard, Rathmann, and Danielson.

3. *Claim 5*

Claim 5 depends from claim 4 and further recites “wherein the visible indicator also gives an indication of the product condition or state of the product.” Ex. 1001, 12:45–47. Petitioner asserts that Beard’s display of battery charge status is a visible indicator that “gives an indication of the product condition or state of the product.” Pet. 44 (citing Ex. 1005, 11:24–26, 11:32–34; Ex. 1003 ¶¶ 170–71). Patent Owner does not present any arguments with respect to this claim other than those already discussed. *See* PO Resp. 45–55. We agree with and adopt Petitioner’s contentions with respect to this claim. Accordingly, we conclude that Petitioner has shown by a preponderance of the evidence that claim 5 would have been obvious over the combination 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, and 32 of the ’980 patent would have been obvious over the combination of Beard and Rathmann, and

claims 4 and 5 of the '980 patent would have been obvious over the combination of Beard, Rathmann, and Danielson.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1, 3–5, and 32 of the '980 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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