

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

POWER INTEGRATIONS, INC.,
Petitioner,

v.

SEMICONDUCTOR COMPONENTS INDUSTRIES, LLC,
Patent Owner.

Case IPR2017-01975
Patent RE39,933 E

Before BRYAN F. MOORE., JAMES B. ARPIN, and KAMRAN JIVANI,
Administrative Patent Judges.

ARPIN, *Administrative Patent Judge.*

DECISION

Denying Institution of Inter Partes Review
35 U.S.C. § 314(a) and 37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Power Integrations, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) to institute an *inter partes* review of claims 1, 6, 8, 9, 14–17, 19–29, 32–37, 40–43, and 45 (the “challenged claims”) of U.S. Patent No. RE39,933 E to Hall *et al.* (Ex. 1001, “the ’933 patent”), pursuant to 35 U.S.C. §§ 311–319. Pet. 4. Semiconductor Components Industries, LLC (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). We have authority under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

Petitioner relies upon the following declaration and reference in support of its ground for challenging claims 1, 6, 8, 9, 14–17, 19–29, 32–37, 40–43, and 45 of the ’933 patent.

Exhibit	Declaration and Reference
1003	Declaration of Tamas Szepesi, Ph.D.
1004 ¹	Unitrode UC1828, UC2828, and UC3828 Current Mode PWM Controller IC Datasheet, Advanced Information, pp. 6-190 to 6-196, dated 11/94, from Product and Application Handbook, 1995-96 (“UC1828 datasheet”)

Pet. ii.

Petitioner asserts that the challenged claims are unpatentable on the following ground (Pet. 4, 13–43):

¹ The page numbers for Ex. 1004 are those numbers appearing at the bottom of each page, which Petitioner added.

Claims	Ground	Reference
1, 6, 8, 9, 14–17, 19–29, 32–37, 40–43, and 45	35 U.S.C. § 102(b)	UC1828 Datasheet

For the reasons set forth below, we determine that, on this record, Petitioner fails to demonstrate a reasonable likelihood of prevailing in showing the unpatentability of any of the challenged claims. Accordingly, we *deny* institution of *inter partes* review as to any of the challenged claims of the '933 patent.

B. Related Proceedings

Petitioner was sued for infringement of the '933 patent by Patent Owner: *On Semiconductor Corp. v. Power Integrations, Inc.*, Case No. 2:16-cv-02720 (D. Az.), on August 11, 2016. Pet. 2. That case was subsequently transferred to a U.S. district court in California and consolidated with another case brought by Petitioner. The case caption for the consolidated case is *Power Integrations, Inc. v. On Semiconductor Corp. et al.*, 5:16-cv-06371-BLF, 5:17-cv-03189-BLF (N.D. Cal.). *Id.* Petitioner also has filed a second petition seeking *inter partes* review of claims 1–4, 6, 8–17, 19–43, 45, and 46 of the '933 patent (IPR2017-01904) and petitions to review several of Patent Owner's other patents – U.S. Patent Nos. RE45,862 E (IPR2017-01903); 6,333,624 B1 (IPR2017-01907); and RE41,908 E (IPR2017-01944). *See id.*

C. The '933 Patent

The '933 patent, entitled “Power Conversion Integrated Circuit and Method for Programming,” relates generally to integrated circuits and more particularly to power conversion integrated circuits. Ex. 1001, [54], 1:18–

20. “A switched-mode power supply is an electronic power converter that incorporates a switching regulator to efficiently convert electrical power. [In particular, a s]witched mode power supplies convert an unregulated input power source (AC or DC) into a regulated DC output to power electronic devices such as computer equipment, TVs, and the like.” Pet. 4–5 (citing Ex. 1003 ¶¶ 33–43). Therefore, the Specification of the ’933 patent teaches power conversion integrated circuits that operate with different power supplies and minimize the number of external components required for controlling the power supply on/off switch circuitry. Ex. 1001, 1:41–46.

Figure 1 of the ’933 patent, as annotated by Petitioner, is reproduced below:

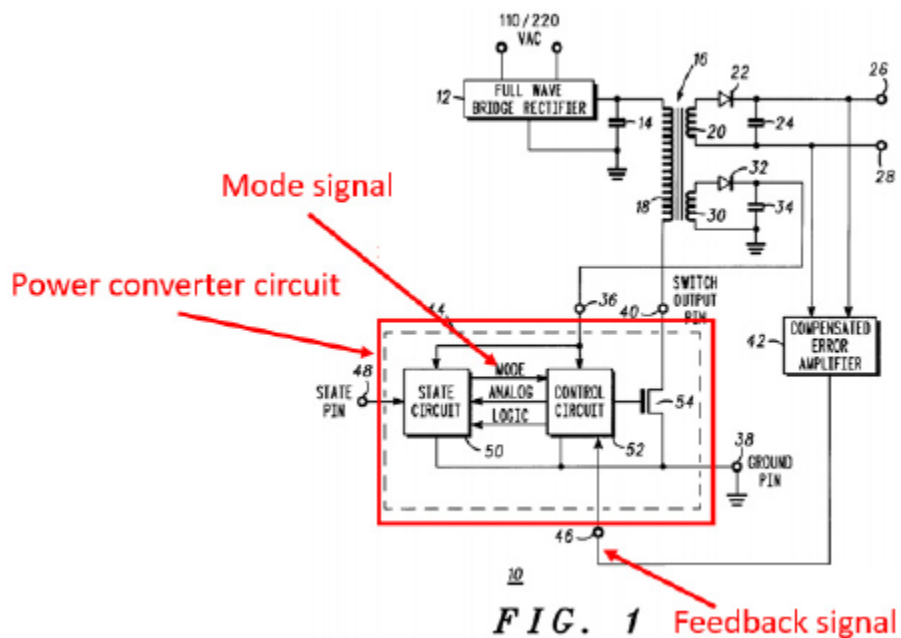


Figure 1 depicts power supply 10 using integrated power converter circuit 44. Power supply 10 is controlled by power converter circuit 44, which includes five pins: bias pin 36, ground pin 38, feedback pin 46, state pin 48, and switch output pin 40. Ex. 1001, 2:44–48. A feedback signal, generated

by compensated error amplifier 42, alters the pulse width of the control signal driving transistor 54 and, thus, regulates the output voltage of power supply 10. *Id.* at 3:16–23. “The value at the state pin 48 is used by the state circuit to generate a ‘mode’ signal, which is output to, and used by, the control circuit 52 to control the on/off states of the power supply.” Pet. 7.

Figure 2 of the '933 patent, as annotated by Petitioner, is reproduced below:

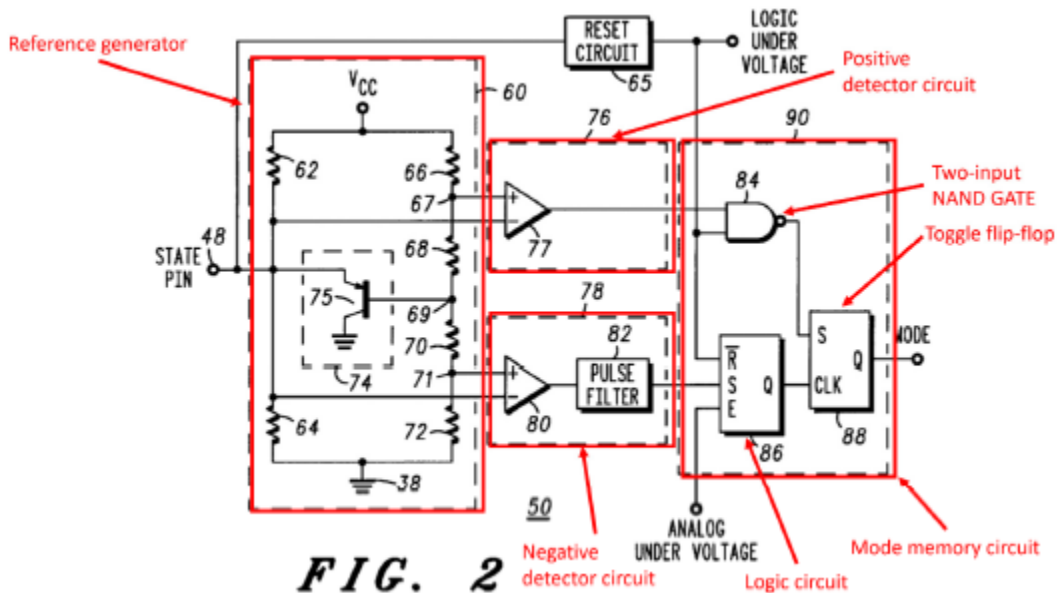


Figure 2 depicts an embodiment of the state circuit portion of power converter circuit 44. “The state circuit includes reference generator 60, which is a resistance network that creates threshold voltages for the comparators of the positive detector circuit 76 and negative detector circuit 78.” *Id.* at 8 (citing Ex. 1001, 3:66–4:2). The Specification describes that the resistance network may generate reference voltages of 2.9 volts (at node 67) for positive detector circuit 76 and 1.1 volts (at node 71) for negative detector circuit 78. Ex. 1001, 3:66–4:17.

Mode memory circuit 90 includes two-input NAND gate 84, logic circuit 86, and positive edge triggered toggle flip-flop 88. *Id.* at 4:36–38. NAND gate 84 has one input connected to the output of positive detector circuit 76 and the other input coupled to receive the signal entitled “LOGIC UNDER-VOLTAGE.” *Id.* at 4:39–42. As voltage V_{cc} increases from a starting voltage of zero, the signal LOGIC UNDER-VOLTAGE has an initial logic zero value that increases to logic level one at a predetermined V_{cc} voltage. *Id.* at 4:42–46. By increasing this signal to logic level one, the V_{cc} voltage is sufficient to operate the logic circuitry. *Id.* at 4:45–47. Similarly, the “ANALOG UNDER-VOLTAGE” ensures that the transistors in the circuit have a sufficient supply voltage to operate. *Id.* at 4:53–61. “The output of the mode memory circuit 90, ‘MODE,’ is input to control circuit 52, which uses this signal to control whether the power supply is turned on or off.” Pet. 9 (citing Ex. 1001, 5:12–14, 5:54–55; Ex. 1003 ¶¶ 50–52).

D. Illustrative Claim

Petitioner challenges claims 1, 6, 8, 9, 14–17, 19–29, 32–37, 40–43, and 45 of the '933 patent. Claims 1, 8, 14, 21, 26, 32, 35, and 40 are independent. Claim 6 depends from claim 1; claims 9, 43, and 45 depend from claim 8; claims 15–17, 19, and 20 depend from claim 14; claims 22–25 depend from claim 21; claims 27–29 depend from claim 26; claims 33 and 34 depend from claim 32; claims 36 and 37 depend from claim 35; and claims 41 and 42 depend from claim 40.

Claim 1 is directed to a power conversion integrated circuit. Claim 1 is illustrative and is reproduced below:

1. A power conversion integrated circuit, comprising:
a state circuit having an output that supplies a mode signal, wherein the state circuit includes
a comparator having a first input coupled for receiving a control signal and a second input coupled for receiving a first reference signal, and
a memory circuit having a first input coupled to an output of the comparator for setting an output state of the memory circuit according to a value of the control signal;
and
a control circuit coupled for receiving the mode signal that sets a mode of operation, where the control circuit is responsive to a feedback signal for providing a pulse-width modulated control signal.

Ex. 1001, 8:65–9:11 (claim 1).

E. Person of Ordinary Skill in the Art

Petitioner asserts that the earliest filing date for the '933 patent is June 4, 1997. Pet. 12; *see* Ex. 1001, [64]. Petitioner argues that, as of that date, a person of ordinary skill in the art “would have the equivalent of a Bachelor’s degree or higher in electrical engineering with at least 3 years working experience in the design of electronic circuits, would be familiar with switching voltage regulator circuits and with the operation, design and fabrication of integrated circuits related to switching voltage regulators.” Pet. 12 (citing Ex. 1003 ¶ 32). At this time, Patent Owner does not propose an alternative assessment of a person of ordinary skill in the art. For purposes of this Decision, and to the extent necessary, we adopt Petitioner’s assessment.

F. Claim Construction

The '933 patent allegedly expired on June 4, 2017. Pet. 12; *see*

Ex. 1001, [64]. Claims of an *expired* patent are given their ordinary and customary meaning in accordance with *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012); *see also Black & Decker, Inc. v. Positec USA, Inc.*, 646 F. App'x. 1019, 1024 (non-precedential) (applying the *Phillips* standard to construe the claims of an expired patent in an *inter partes* review).

Neither Petitioner nor Patent Owner, however, proposes constructions for any claim terms. Pet. 12–13; Prelim. Resp. ii. We do not construe any term at this time because no term needs to be construed expressly for purposes of this Decision.

II. ANALYSIS

A. Overview

“A petitioner in an *inter partes* review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and *only on the basis of prior art consisting of patents or printed publications.*” 35 U.S.C. § 311(b) (emphasis added); *see* 37 C.F.R. § 42.104(b)(2). “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Petitioner argues that each of claims 1, 6, 8, 9, 14–17, 19–29, 32–37, 40–43, and 45 of the '933 patent is anticipated by the UC1828 datasheet. *See supra* Section I.A.

[W]hether information is printed, handwritten, or on microfilm or a magnetic disc or tape, etc., *the one who wishes to characterize the information, in whatever form it may be, as a “printed publication” . . . should produce sufficient proof of its dissemination or that it has otherwise been available and*

accessible to persons concerned with the art to which the document relates and thus most likely to avail themselves of its contents.

In re Wyer, 655 F.2d 221, 227 (CCPA 1981) (emphasis added). Petitioner has the burden to establish in its Petition a reasonable likelihood of success, including, among other things, making a threshold showing that the UC1828 datasheet is a “printed publication” within the meaning of 35 U.S.C.

§§ 102(b) and 311(b). 35 U.S.C. § 314(a); *see* 37 C.F.R. § 42.108(c); *Apple, Inc. v. DSS Tech. Mgmt., Inc.*, Case IPR2015-00369, slip op. at 4–5, 9–11 (PTAB Aug. 12, 2015) (Paper 14). For the reasons set forth below and on this record, Petitioner does not satisfy this burden.

B. Printed Publications

Petitioner argues that the UC1828 datasheet is a printed publication and that it may properly assert this reference as a basis for the ground of unpatentability in its Petition because the UC1828 datasheet allegedly was published in January 1995 more than one year before the earliest filing date (June 4, 1997) of the '933 patent. Pet. 4; *see* 35 U.S.C. § 312(a)(3)(A); 37 C.F.R. § 42.104(b)(2). Patent Owner disagrees, and contends that Petitioner fails to demonstrate that the UC1828 datasheet is a printed publication.

Prelim. Resp. 1–8.

“Public accessibility” is the touchstone in determining whether a reference is a “printed publication.” *In re Hall*, 781 F.2d 897, 898–99 (Fed. Cir. 1986); *see, e.g., L-3 Commc’n. Holdings, Inc. v. Power Survey, LLC*, Case IPR2014-00832, slip op. at 11–12 (PTAB Nov. 14, 2014) (Paper 9) (applied reference not shown to be publicly accessible); *C&D Zodiac, Inc. v. B/E Aerospace, Inc.*, Case IPR2014-00727, slip op. at 20–22 (PTAB Oct. 29,

2014) (Paper 15) (applied reference shown to be publicly accessible). Although some cases, such as *In re Cronyn*, 890 F.2d 1158, 1160 (Fed. Cir. 1989), refer simply to “the public interested in the art,” the majority of cases appear to define the standard as accessibility to persons interested and ordinarily skilled in the art. See *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1379 (Fed. Cir. 2006) (clarifying that in *Cronyn*, the Court determined that three student theses were not publicly accessible and “[t]he significance of whether these theses were meaningfully catalogued or indexed was whether *one skilled in the art* could locate them” (emphasis added)).²

Consequently, “[a] reference will be considered publicly accessible if it was ‘disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it.’” *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016) (quoting *Kyocera Wireless Corp. v. Int’l Trade Comm’n*, 545 F.3d 1340, 1350 (Fed. Cir. 2008) (quoting *SRI Int’l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008))). The status of a reference as a printed publication is a legal conclusion “based on underlying factual determinations.” *Blue Calypso*, 815 F.3d at 1348 (citing *In re Lister*, 583 F.3d 1307, 1311 (Fed. Cir. 2009)). As noted above, Petitioner argues that the UC1828 datasheet qualifies as prior art solely because it allegedly was published more than one year prior to the earliest filing date of the ’933 patent. Pet. 4.

² Petitioner does not argue that the UC1828 datasheet was catalogued or indexed, such that persons skilled in the relevant art could locate it. Pet. 4; see Prelim. Resp. 2.

When determining whether the petitioner’s arguments and evidence are sufficient to support institution of *inter partes* review, we note that:

The reasonable likelihood standard for instituting *inter partes* review is . . . not a *lower* standard of proof than a preponderance of the evidence, but instead asks whether the same preponderance standard is reasonably likely to be met *at a later time*. We must assess the persuasiveness of the petitioner’s evidence while “recognizing that [we are] doing so without all evidence that may come out at trial.” As such, we have required only a “threshold showing” of public availability in order to institute trial. When petitioners have not come forward with *any* credible evidence establishing a key aspect of public availability, we have denied institution.

ServiceNow, Inc. v. Hewlett-Packard Co., Case IPR2015-00707, slip op. at 2 (PTAB August 26, 2015) (Paper 12) (Crumbley, APJ, dissenting) (citations omitted). For the reasons set forth below, we determine that Petitioner’s arguments and evidence with respect to the status of the UC1828 datasheet as a printed publication are unpersuasive and, therefore, that Petitioner is not reasonably likely to succeed in establishing the unpatentability of any challenged claim.³

Here, Petitioner asserts that “[t]he UC1828 datasheet was *published* in January 1995, more than one year prior to the ’933 patent’s earliest priority date, and thus is prior art under 35 U.S.C. § 102(b).” Pet. 4 (emphasis added). This single sentence is the sum total of Petitioner’s argument for the

³ Although a petitioner may have had later opportunities to supplement the record, this is no guarantee that deficiencies existing in the record at institution will be cured later. See *GoPro, Inc. v. Contour IP Holding LLC*, Case IPR2015-01078, slip op. at 19–28 (PTAB Oct. 26, 2016) (Paper 54); *GoPro, Inc. v. Contour IP Holding LLC*, Case IPR2015-01078, slip op. at 2–10 (PTAB Feb. 16, 2017) (Paper 59).

public accessibility of the UC1828 datasheet. *See* Prelim. Resp. 7. Petitioner’s naked assertion that the UC1828 datasheet was *published*, and, therefore, publicly accessible, is not supported by the record, which fails to identify the circumstances and manner in which the reference was disseminated or in which persons interested and ordinarily skilled in the subject matter could locate the reference. *Cisco Systems, Inc. v. Constellation Techs., LLC*, Case IPR2014-01085, slip op. at 7–9 (PTAB Jan. 9, 2015) (Paper 11) (noting “naked assertion,” unsupported by record, that reference was published).

Although Petitioner does not cite to any portion of the UC1828 datasheet in support of its argument, we have considered the UC1828 datasheet, and we do not find persuasive evidence of its public accessibility. Referring to the cover of the reference, the reference indicates that it is the “Unitrode Integrated Circuits Product & Applications Handbook 1995–96” and bears the label of Aldridge Associates, Inc., of Eden Prairie, MN. Ex. 1004, 1. Petitioner does not explain the significance of the indicated dates or the Aldridge Associates label to determining whether and, if so, when this reference was publicly accessible. Pet. 4. We do not find that the dates on the face of the reference are persuasive evidence of its public accessibility. *Toshiba Corp. v. Optical Devices LLC*, Case IPR2014-01447, slip op. at 40 (PTAB Mar. 9, 2016) (Paper 34) (finding that a date printed on a datasheet “is at best circumstantial evidence of its publication, and the reference does not provide any definitive statement or identification that it was accessible to the public interested in the art” by that date); *see Carella v. Starlight Archery*, 804 F. 2d 135, 138–39 (Fed. Cir. 1986).

Further, the reference bears the following copyright notice

© 1995, by Unitrode Integrated Circuits Corporation. All rights reserved. This book or any part or parts thereof, must not be reproduced in any form without permission of the copyright owner.

indicating the copyright holder's assertion of copyright in the reference in 1995⁴ and restricting the right of the person possessing a copy of the reference to reproduce any portion of the reference without the copyright owner's permission. Ex. 1004, 2. The references also bears the assertion that it was "Printed in U.S.A. – January 1995." *Id.* These assertions also fail to evidence whether and, if so, when this reference was publicly accessible.

Some panels have found that such dates, such as the date appearing in a copyright notice, are hearsay, and, thus, cannot be relied upon as evidence in *inter partes* reviews. Prelim. Resp. 3–6; *see ServiceNow*, Case IPR2015-00707, slip op. at 15–16 (Paper 12) (majority opinion) (citing *Apple*, Case IPR2015-00369, slip op. at 6 (Paper 14)); *Standard Innovation Corp. v. Lelo, Inc.*, Case IPR2014-00148, slip op. at 13–16 (PTAB Apr. 23, 2015) (Paper 41). Other panels have given the copyright notice more persuasive weight. *See Ford Motor Co. v. Cruise Control Techs. LLC*, Case IPR2014-00291, slip op. at 7–8 (PTAB June 29, 2015) (Paper 44) (citing *FLIR Sys., Inc. v. Leak Surveys, Inc.*, Case IPR2014-00411, slip op. at 18–19 (PTAB Sept. 5, 2014) (Paper 9)). However, Petitioner does not rely here on the copyright notice as evidence of public accessibility. *See* Pet. 4. On this record, we are not persuaded that the presence of a copyright notice, without more, is sufficient evidence of public accessibility as of a particular date.

⁴ “[A] notice of copyright . . . may be placed on publicly distributed copies from which the work can be visually perceived” 17 U.S.C. § 401(a) (emphasis added).

See, e.g., LG Electronics, Inc. v. Advanced Micro Devices, Inc., Case IPR2015-00329, slip op. at 10–13 (PTAB July 10, 2015) (Paper 13).

Finally, as Patent Owner notes, the UC1828 datasheet includes the following statement restricting dissemination: “This book or any part or parts thereof, must not be reproduced *in any form* without permission of the copyright owner.” Prelim. Resp. 6 n.2 (quoting Ex. 1004, 2) (emphasis added). When assessing public accessibility, we consider the reference *as a whole* and read the printing date of the reference – cited by Petitioner, the date on the cover of the reference, and the copyright date, in view of the restriction on further dissemination that also is set forth in the reference. *See LG Electronics*, Case IPR2015-00329, slip op. at 10–13 (Paper 13) (weighing the evidence of public accessibility *as a whole*). We are not persuaded here that the reference sufficiently evidences that it was publicly accessible, according to the standard set forth in *Blue Calypso*, on any particular date.

Consequently, on this record,⁵ we are not persuaded that Petitioner makes the necessary threshold showing that the UC1828 datasheet (Ex. 1004) was a printed publication more than one year before the earliest filing date (June 4, 1997) of the ’933 patent.

⁵ During a conference call on January 9, 2018, Petitioner requested authorization to file a reply to Patent Owner’s Preliminary Response and to respond to Patent Owner’s contentions regarding the public accessibility of the UC1828 datasheet. Ex. 1019, 5:20–6:2. Nevertheless, Petitioner acknowledged that the panel was capable of assessing the requirements of the law and the evidence of record (*see id.* at 7:17–8:4) and that Petitioner did not intend to submit further evidence regarding public accessibility (*see id.* at 10:13–12:3). Therefore, we denied authorization for a reply. *Id.* at 19:20–21:11.

III. CONCLUSION

Petitioner fails to demonstrate that there is a reasonable likelihood of prevailing in its challenge to the patentability of any of claims 1, 6, 8, 9, 14–17, 19–29, 32–37, 40–43, and 45 of the '933 patent. Consequently, the Petition is *denied* as to the asserted ground.

IV. ORDER

For the reasons given, it is

ORDERED that the Petition is *denied*, and no *inter partes* review is instituted.

IPR2017-01975
Patent RE39,933 E

PETITIONER:

John C. Phillips
Neil A. Warren
FISH & RICHARDSON P.C.
phillips@fr.com
warren@fr.com

PATENT OWNER:

Roger Fulghum.
Brian W. Oaks
Brett J. Thompsen
Nick Schuneman
Jennifer Nall
BAKER BOTTS L.L.P.
roger.fulghum@bakerbotts.com
brian.oaks@bakerbotts.com
brett.thompsen@bakerbotts.com
nick.schuneman@bakerbotts.com
jennifer.nall@bakerbotts.com