

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ASSA ABLOY AB and HID GLOBAL CORPORATION,
Petitioner,

v.

WAVELYNX TECHNOLOGIES CORPORATION,¹
Patent Owner.

IPR2023-00046
Patent 10,467,830 B2

Before CHRISTOPHER L. CRUMBLEY, MINN CHUNG, and
SCOTT RAEVSKY, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

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

¹ The Petition as filed named Jean Hugues Wendling and Danial William Field as Patent Owner. WaveLynx Technologies Corp. subsequently filed a Mandatory Notice identifying itself as Patent Owner, noting that Messrs. Wendling and Field assigned the '830 patent to WaveLynx after the filing of the Petition. Paper 4, 2. We have updated the case caption accordingly.

INTRODUCTION

ASSA ABLOY AB and HID Global Corporation (collectively, “Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–20 of U.S. Patent No. 10,467,830 B2 (Ex. 1001, “the ’830 patent”). The assignee of the ’830 patent, WaveLynx Technologies Corporation (“Patent Owner”), did not file a Preliminary Response.

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a) (2022). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), 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.”

After considering the Petition and the evidence of record, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at least one challenged claim. Accordingly, we institute an *inter partes* review of all challenged claims. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018); *see also* Patent Trial and Appeal Board Consolidated Trial Practice Guide 64 (Nov. 2019) (“TPG”) (“The Board will not institute on fewer than all claims or all challenges in a petition.”).

A. Related Matters and Real Parties-in-Interest

Neither party identifies any Office proceeding or litigation in district court that is related to the ’830 patent. Pet. 1; Paper 4, 2. The parties note that there is an unrelated litigation between the parties that does not involve

the '830 patent. *Id.* (citing *HID Global Corporation and ASSA ABLOY AB v. WaveLynx Technologies Corporation*, No. 22-362-GDW (D. Del.)).

Petitioner identifies ASSA ABLOY AB and HID Global Corporation, a wholly-owned subsidiary of ASSA ABLOY AB, as real parties-in-interest. Pet. 1. Patent Owner identifies WaveLynx Technologies Corporation as the sole real party-in-interest. Paper 4, 2.

B. The '830 Patent

The '830 patent, entitled “Electronic Credential Reader,” issued on November 5, 2019, from an application filed October 11, 2017. Ex. 1001, codes (22), (45), (54). The patent discloses a configurable electronic credential reader that contains communication interfaces for both unidirectional and bidirectional communications, and circuitry for switching between the two. *Id.* at Abstract, code (57).

According to the patent, electronic access controls for building entrances typically consist of a credential reader mounted at a door, that when activated sends credential data to an access controller located somewhere on the secure side of the door. *Id.* at 1:11–16. If the controller determines that the credentials permit access through the door, the controller then unlocks the door. *Id.* at 1:19–21. The '830 patent states that traditionally, the communication between a credential reader and an access controller contained no security measures, and was a system vulnerability for hacking. *Id.* at 1:22–26. These legacy controllers used a unidirectional communication protocol, also known as Wiegand. *Id.* at 2:63–3:8.

Newer communication protocols have been developed in an attempt to address security vulnerabilities, including the Open Supervised Device Protocol (OSDP) that uses bi-directional communications. *Id.* at 4:5–10.

Upgrading access systems to support OSDP, however, requires replacing legacy access controllers as well as each individual credential reader, and may take some time to complete because all components must support the same protocol to function. *Id.* at 19–28. The '830 patent seeks to address this challenge by providing credential readers that are capable of communication using both Wiegand and OSDP protocols, because they contain both unidirectional and bidirectional communication interfaces. *Id.* at 4:28–33. This facilitates replacement of legacy credential readers, and once all readers are replaced and the access controller upgraded to use OSDP, the readers can be switched over to using only OSDP as well. *Id.* at 4:23–41. According to the '830 patent, the disclosed credential readers may optionally contain measures that prevent a device from returning to unidirectional mode once switched to the more secure OSDP mode, such as by installing a one-time programmable fuse or setting the mode in non-volatile memory. *Id.* at 5:21–50.

An access control system according to the invention of the '830 patent is depicted in Figure 1 below:

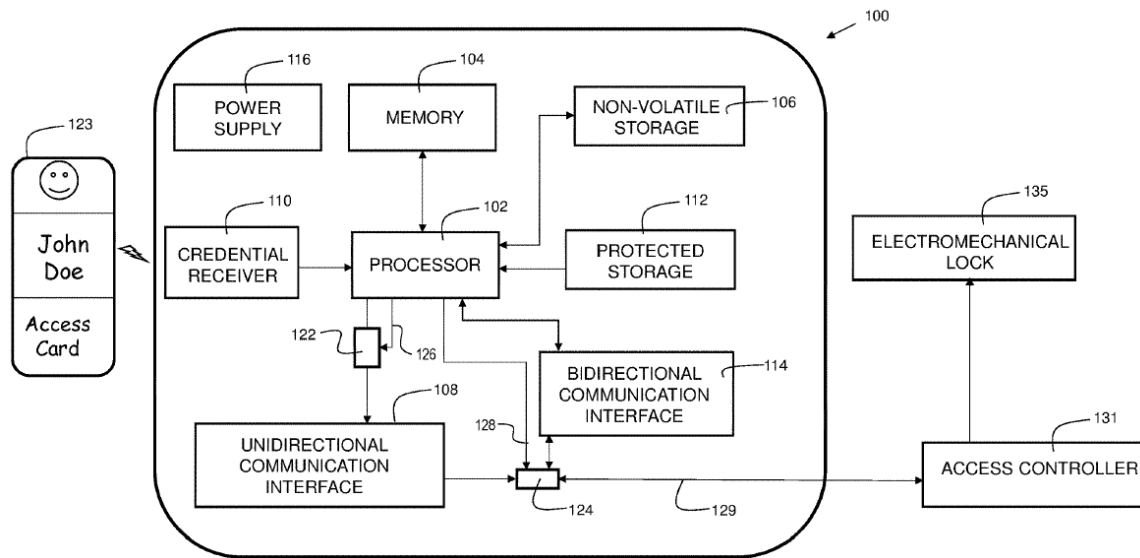


FIG. 1

Figure 1 of the '830 patent is a block diagram of electronic credential reader 100 that shows credential 123 being scanned by credential receiver 110. *Id.* at 3:40–46. Processor 102 communicates with switch 124 to determine whether to transmit data via unidirectional communication interface 108 or bidirectional communication interface 114. *Id.* at 4:59–5:8, 6:17–20. Data is then transmitted via external communication link 129 to access controller 131, which determines whether to allow access by unlocking electromechanical lock 135. *Id.* at 3:50–56, 4:53–58.

C. Illustrative Claim

Petitioner challenges the patentability of claims 1–20 of the '830 patent, of which claims 1, 3, and 11–15 are independent. Claim 1 is illustrative of the subject matter of the challenged claims:

1. An electronic credential reader, comprising:
a credential receiver;
a unidirectional communication interface;
a bidirectional communication interface;

a plurality of external communication lines, wherein the unidirectional communication interface and the bidirectional interface are coupled to a processor via the external communication lines; and,

a computer readable medium coupled to the processor;

wherein the bidirectional communication interface and the unidirectional communication interface are configured to share the plurality of external communication lines; and

wherein the computer readable medium comprises instructions that, when executed by the processor, change

from a first communication mode in which the electronic credential reader uses the unidirectional communication interface to communicate with the processor via the external communication lines

to a second communication mode in which the electronic credential reader uses the bidirectional communication interface to communicate with the processor via the external communication lines.

Ex. 1001, 9:30–53.

Independent claims 3 and 11–13 are substantially similar to claim 1 but recite additional features such as a one-time programmable fuse, a non-volatile storage, or a hysteresis timer. *Id.* at 9:57–10:21; 10:51–12:10. Independent claims 14 and 15 recite computer-implemented methods for configuring an electronic credential reader such as the one recited in claim 1. *Id.* at 12:11–41.

D. The Asserted Grounds of Unpatentability

Petitioner contends that claims 1–20 of the '830 patent are unpatentable under 35 U.S.C. § 103² based on the following grounds (Pet. 3):

Claim(s) Challenged	References
1–10, 12, 14	Chis, ³ Guthery ⁴
11	Chis, Guthery, Adams ⁵
13	Chis, Guthery, Panian ⁶
15	Chis, Brennan ⁷
16, 17	Chis, Brennan, Guthery
18, 19	Chis, Brennan, Adams
20	Chis, Brennan, Panian

² The Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011) (“AIA”), included revisions to 35 U.S.C. § 103 that became effective before the filing date of the challenged claims. The earliest possible filing date is October 11, 2017. Ex. 1001, code (22). Therefore, we apply the post-AIA version of 35 U.S.C. § 103.

³ US Patent No. 10,452,877 B2 to Chis et al., filed December 12, 2017, claims priority to a provisional application filed December 16, 2016. Ex. 1005.

⁴ US Patent No. 8,943,562 B2 to Guthery et al., filed November 29, 2012, issued January 27, 2015. Ex. 1006.

⁵ US Patent Pub. No. 2014/0344960 A1 to Adams, filed May 22, 2013, published November 20, 2014. Ex. 1008.

⁶ US Patent No. 6,285,890 B2 to Panian, filed January 26, 1999, issued September 4, 2001. Ex. 1009.

⁷ US Patent Pub. No. 2009/0102681 A1 to Brennan et al., filed July 23, 2008, published April 23, 2009. Ex. 1010.

Petitioner contends that this is prior art to the '830 patent under 35 U.S.C. § 102(a)(2) and the remaining asserted references are prior art under 35 U.S.C. § 102(a)(1). Pet. 2–3. We have reviewed the references and preliminarily determine for purposes of this Decision that each is prior art to the '830 patent.

In addition to the references listed above, Petitioner relies on the testimony of Stuart Lipoff. Ex. 1003.

ANALYSIS

A. Level of Skill

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Petitioner contends that a person of ordinary skill in the art at the time of the invention would have had “at least an undergraduate degree in electrical engineering, or equivalent education, and at least two years of work experience in the field of access control.” Pet. 10 (citing Ex. 1003 ¶¶ 36–38). At this stage of the proceeding, we adopt Petitioner’s definition of the level of skill in the art, which is consistent with the disclosure of the '830 patent and asserted prior art of record. If the parties disagree with our preliminary finding, they are invited to further brief the issue of level of ordinary skill in the art and, in particular, which disputed issues material to patentability turn on the definition adopted by the Board.

B. Claim Construction

In *inter partes* review proceedings, we construe claims using the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), as articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), and its progeny. *See* 37 C.F.R. § 42.100(b) (2022). Petitioner does not directly address claim construction or propose an express construction of any claim term. In analyzing the prior art as part of its proposed grounds of unpatentability, however, Petitioner does interpret a phrase of claim 1, namely “a plurality of external communication lines, wherein the unidirectional communication interface and the bidirectional interface are coupled to a processor via the external communication lines.” Pet. 17–19. According to Petitioner, “via the external communication lines” as used in this phrase does *not* require the communication interfaces to be connected to the processor by the external communication lines. *Id.* Petitioner argues that such a requirement would be inconsistent with Figure 1 of the ’830 patent, which shows the processor as part of the reader and the interfaces coupled to *both* the processor and the external communication lines. *Id.* Petitioner stresses that no embodiment or description in the ’830 patent supports an interpretation of “via” as requiring the external communication lines to be located *between* the interfaces and the processor. *Id.*

While we do not disagree with Petitioner’s summary of the written description of the ’830 patent, we begin claim construction with the language of the claims. *See Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (“In construing claims, the analytical focus must begin and remain centered on the language of the

claims themselves.”). Here, the plain language of claim 1 requires the interfaces and the processor to be coupled *via* the external communication lines. Petitioner provides no potential reading for this express language, other than to simply say it cannot mean that the external communication lines be between the interfaces and the processor. Though not stated directly, Petitioner appears to interpret “via” as simply meaning “and”: “the unidirectional communication interface and the bidirectional communication interface are coupled to a processor ~~via~~ and the external communication lines.”

At this stage, this interpretation appears to conflict with how the ’830 patent uses “via” elsewhere in the claims. For example, claim 1 also recites that the reader “uses the unidirectional communication interface to communicate with the processor *via* the external communication lines.” If the patent were using “via” to simply mean “and,” this recitation would be nonsensical. Rather, it appears on this record that one of ordinary skill in the art would have understood “via” to have its ordinary meaning of “through.”⁸

The prosecution history of the ’830 patent also strongly supports this conclusion. As originally filed, claim 1 of the application recited that “the unidirectional communication interface, bidirectional interface, *and* external communication lines are coupled to a processor.” Ex. 1002, 99 (emphasis added). To overcome a prior art rejection, the applicant later amended the claims to remove “and” and insert the “via” language that appears in the

⁸ In fact, claim 3 recites that the processor is “coupled *via* the plurality of external communication lines to the switch,” such that it communicates with the interfaces “*through* both the plurality of external communication lines and the switch.”

existing claim. *Id.* at 44 (amendment: “the unidirectional communication interface[[,]] and the bidirectional interface,~~and external communication lines~~ are coupled to a processor via the external communication lines”).

Petitioner’s proposed construction would make this amendment meaningless.

We recognize that, as Petitioner correctly observes, the ’830 patent describes embodiments that conflict with a construction that gives “via” its ordinary meaning. But the “via” language does not appear in all claims of the patent; claims 11–20 do not recite that the processor is coupled to the interfaces via external communication lines, and appear to more directly cover the embodiments of the ’830 patent that Petitioner indicates. *See Pacing Techs., LLC v. Garmin Int’l, Inc.*, 778 F.3d 1021, 1026 (Fed. Cir. 2015) (“[W]here the patent describes multiple embodiments, every claim does not need to cover every embodiment.”) (internal citations omitted). And while we construe the claims in light of the specification (*see United States v. Adams*, 383 U.S. 39, 49 (1966)), that does not permit us to rewrite an unambiguous claim. *See Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1375 (Fed. Cir. 2004). That is especially the case here, where the Patent Owner has not yet appeared or provided its position on whether the claim contains an error that should be corrected. *See Pavo Sols. LLC v. Kingston Tech. Co., Inc.*, 35 F. 4th 1367, 1375 (Fed. Cir. 2022) (distinguishing *Chef America* because there, “patentees made no attempt to have . . . an error corrected.”).

For purposes of this Decision, therefore, we will preliminarily construe “wherein the unidirectional communication interface and the bidirectional interface are coupled to a processor via the external communication lines” according to its ordinary meaning, where “via” means “through.” If either party disagrees with this construction, we invite further briefing on the issue during the instituted trial.

No other term requires construction at this stage of the proceeding, as we are able to determine whether to institute trial without expressly construing any of the remaining claim terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

C. Asserted Obviousness Based on Chis and Guthery

Petitioner contends that claims 1–10, 12, and 14 of the ’830 patent are unpatentable, as they would have been obvious over the combined disclosures of Chis and Guthery. Pet. 11–61.

I. Chis

Chis discloses an access control reader that “includes a processor coupled to the credential interface” which executes instructions that “cause the access control reader to enter either a first mode of operation or a second mode of operation” corresponding to two different modes of communication. Ex. 1005, Abstract, code (57). Chis specifically discloses “two illustrative protocols” which are OSDP and Wiegand, and notes that “it may be desirable for the reader to automatically detect what type of protocol is being implemented.” *Id.* at 1:62–64, 2:7–11. Chis’s reader has an OSDP

“default mode” used when the reader first powers up, and then, upon receiving a communication using either OSDP or Wiegand, the reader switches to either an OSDP or Wiegand mode. *Id.* at 2:56–3:3. The selected mode is saved in non-volatile memory, such that the reader can return to its previous configuration in the case of a power outage. *Id.* at 3:7–15.

Figure 5B of Chis discloses various hardware aspects of the reader, as shown in the version below as annotated by Petitioner’s witness Mr. Lipoff:

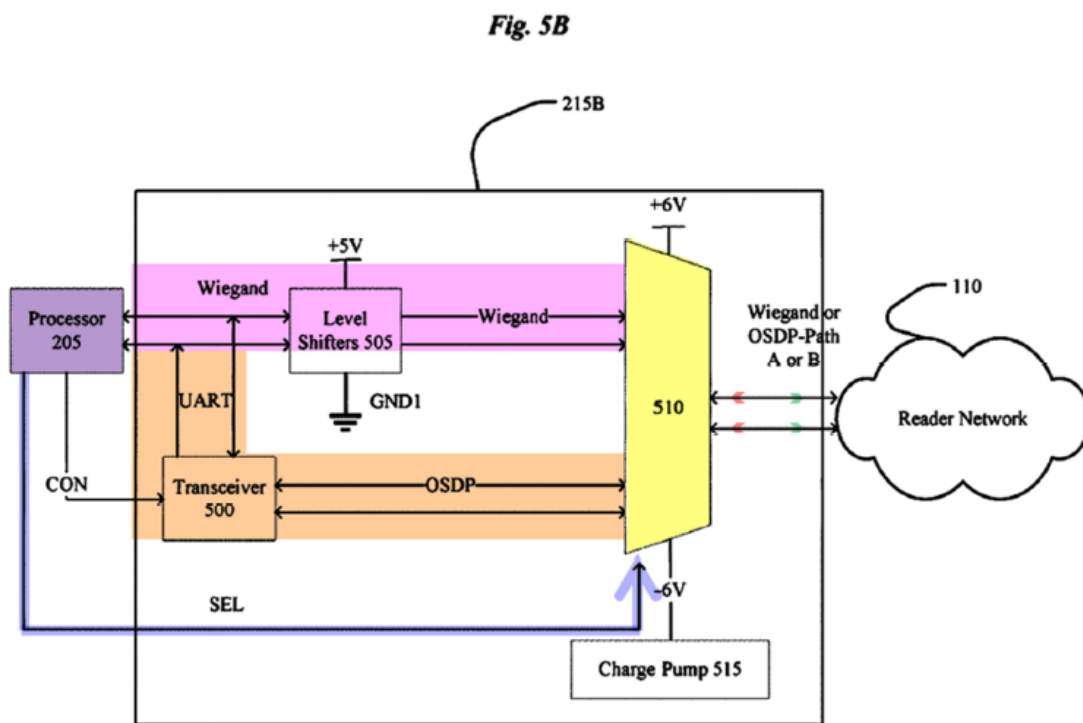


Figure 5B of Chis, as annotated by Mr. Lipoff, shows processor 205 (purple) coupled to two communications interfaces, Wiegand (pink) and OSDP (orange). Ex. 1003 ¶ 50; Ex. 1005 Fig. 5B. Both interfaces connect to selector 510 (yellow) which then communicates with reader network 110 via Wiegand or OSDP paths (green/red arrows). Ex. 1003 ¶ 51.

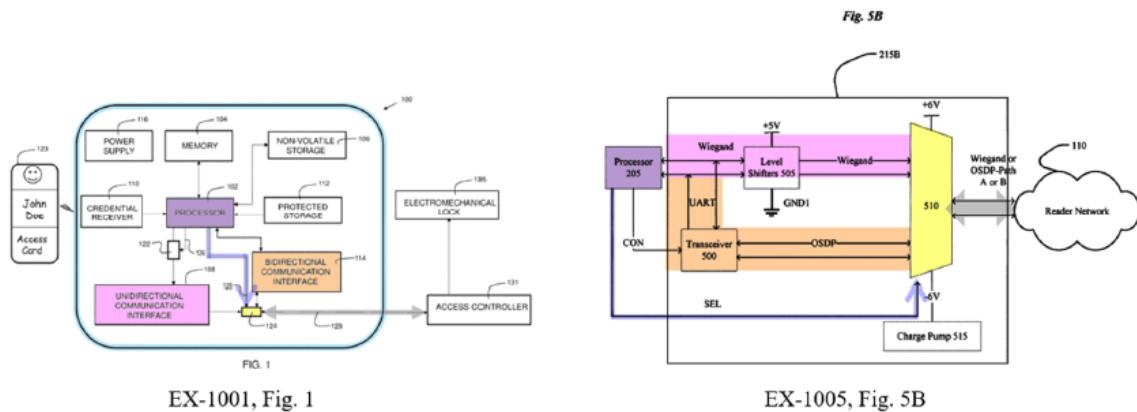
2. *Guthery*

Guthery discusses various methods for increasing the security of Wiegand communications for secure access systems. Ex. 1006, Abstract, code (57). One such method is a “mode change protocol” in which one mode is Wiegand and the other is an “advanced two-way packet-mode of communication.” *Id.* at 17:5–14. Guthery discloses that this modal communication requires “a method of changing from one mode to the other and then optionally back to the original mode.” *Id.* at 17:15–22. The specific method described in Guthery uses the existing LED control (LEDCTL) wire of the Wiegand protocol to communicate the protocol switch. *Id.* at 17:23–51.

3. *Obviousness of Claims 1–10*

We first address a subset of the claims challenged in this ground of unpatentability, specifically claims 1–10, because this contains independent claims 1 and 3 and all of their dependent claims. As discussed above in the context of claim construction, claim 1 contains the limitation “wherein the unidirectional communication interface and the bidirectional interface are coupled to a processor via the external communication lines.” Claim 3 recites a similar limitation, that the reader uses either of the communication interfaces “to communicate with the processor via the external communication lines.” Therefore, all of claims 1–10 require the processor to be coupled to the external communication lines, and communicate *via* those external lines with the unidirectional and bidirectional communications interfaces. We focus our analysis on this limitation, as it is dispositive as to Petitioner’s challenges of claims 1–10.

Petitioner’s challenge to these claims is based on the interpretation of “via the external communication lines” we preliminarily declined to adopt above, wherein all that is required is the external communication lines be coupled to the communications interfaces. Pet. 17–20 (claim 1), 37–39 (claim 3). Based on this faulty construction, Petitioner then compares Figure 1 of the ’830 patent to Figure 5B of Chis, and concludes that “Chis discloses the limitation to the same extent as the ’830 Patent specification.” Pet. 19. Petitioner provides an annotated, side-by-side comparison of these figures:



Petitioner provides annotated Figure 1 of the ’830 patent and annotated Figure 5B of Chis, wherein both figures have a processor (purple) connected to a unidirectional/Wiegand interface (pink) and a bidirectional/OSDP interface (orange), connected to a switch (yellow) and then external communication lines (gray). *Id.* at 20 (citing Ex. 1003 ¶¶ 84–88).

The appropriate comparison, however, is not between the Figures of the ’830 patent and the prior art, but rather the *claims* of the patent and the disclosures of the prior art. And, as discussed above, both claims 1 and 3 of the ’830 patent require that the processor be coupled to (or communicate with) the communications interfaces *via* the external communication lines.

The disclosures of Chis that Petitioner cites do not specify such an arrangement; nor does Petitioner even argue that they do. Rather, in Chis, the processor and the external communication lines are coupled via the interfaces, not the other way around.⁹ Petitioner's analysis, grounded in a claim construction we do not adopt, is not persuasive as to these claim limitations. As such, Petitioner has not demonstrated a reasonable likelihood of success as to independent claims 1 or 3, or as to dependent claims 2 and 4–10, each of which contains the “via” limitation via dependency.

4. Obviousness of Claim 12

Petitioner also relies on this ground of unpatentability for claim 12, which does not incorporate the “via” claim limitation discussed above. Rather, claim 12 recites a switch coupled to the unidirectional and bidirectional communication interfaces and the external communication lines, and then states that a processor is “coupled to the switch.” Therefore, the deficiency in Petitioner's analysis identified above does not carry through to its analysis of claim 12.

Petitioner persuasively sets forth how the majority of the limitations of claim 12 are disclosed by Chis. Pet. 50–55. For example, Petitioner contends that Chis discloses the hardware elements of a credential reader, a unidirectional communication interface, a bidirectional communication interface, external communication lines, a switch, a processor, and a computer readable medium. Pet. 11–21 (analyzing similar elements in

⁹ Petitioner does not rely on disclosures from Guthery to supply this limitation; even if it had, the reference does not remedy the deficiencies of Chis.

claim 1), 50 (relying on analysis of claim 1). We have reviewed these contentions and find them to be sufficient for purposes of institution.

Claim 12 also recites that the computer readable medium contains instructions that perform certain steps, including monitoring the reader for a bidirectional status code, changing the communication mode from unidirectional to bidirectional, and recording the bidirectional mode in non-volatile storage. For these limitations, Petitioner relies on the combined disclosures of Chis and Guthery. Pet. 51–55. Chis is said to disclose memory 210 which includes various instructions, including ones that can cause the reader to operate in either Wiegand or OSDP mode. *Id.* at 51 (citing Ex. 1005, 8:44–45, 8:65–66, 9:5–6, 10:58–60). With regard to changing modes, Petitioner notes that Chis discloses changing from a bidirectional (default) communications mode to a unidirectional (Wiegand) mode, but notes that Guthery discloses switching from unidirectional to bidirectional mode utilizing a LEDCTL signal. Pet. 26 (analysis of claim 1), 53–54. Petitioner argues that a person of ordinary skill in the art would have combined the disclosures of Chis and Guthery, and would have had reason to modify Chis to start in Wiegand mode and switch to OSDP because of the prevalence of Wiegand-based readers at the time of the invention. *Id.* at 28–35. Petitioner also notes that Chis discloses that the mode of operation may be stored in non-volatile memory. *Id.* at 49 (analysis of similar limitation in claim 10), 55.

Upon reviewing Petitioner’s contentions and the preliminary record, we are persuaded that Petitioner has demonstrated a reasonable likelihood that claim 12 would have been obvious over the combined disclosures of Chis and Guthery.

5. *Obviousness of Claim 14*

Finally, claim 14 recites a computer-implemented method, and does include “via” limitations: it recites steps of transmitting information from an electronic credential reader to a processor “via” a unidirectional or bidirectional communication interface. But for this claim, Petitioner provides an alternate analysis not grounded in its proposed claim construction we have preliminarily declined to adopt. Petitioner argues that “to the extent that this limitation requires a ‘processor’ external to the reader,” Chis discloses that access control panel 115 (depicted in green in annotated Figure 1 of Chis below) may include a processor (Pet 58):

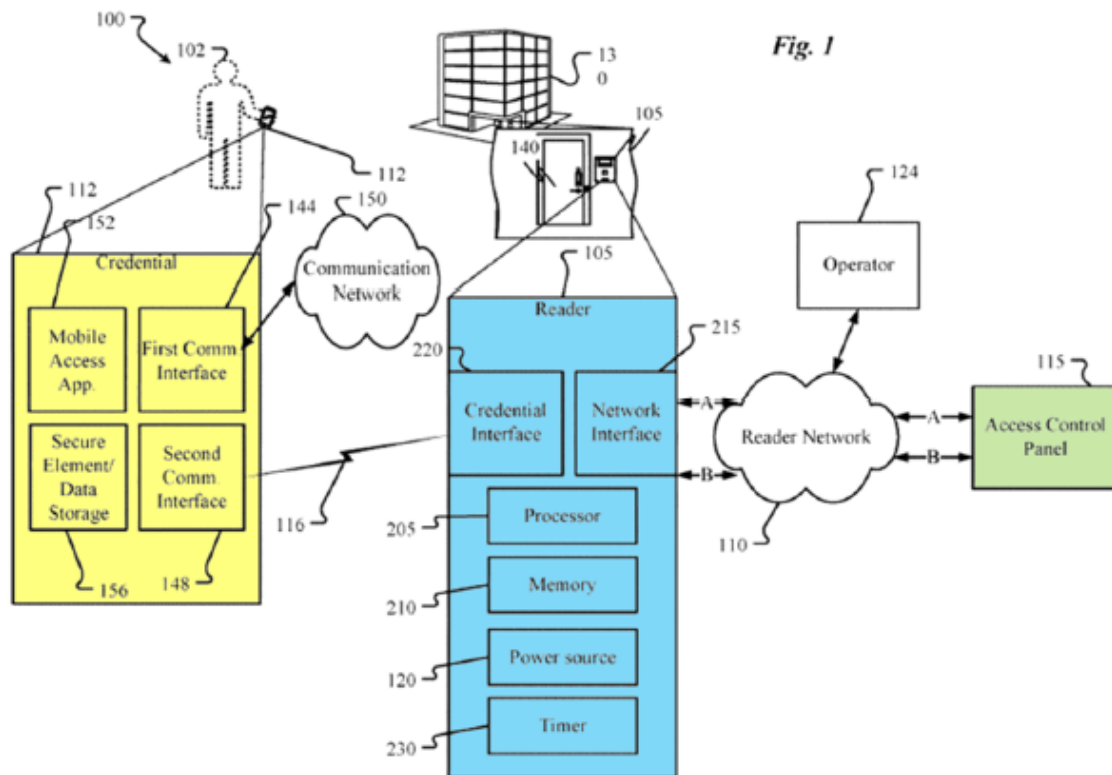


Figure 1 of Chis, as annotated by Mr. Lipoff, shows reader 105 (blue) that communicates via reader network 110 with access control panel 115 (green). Ex. 1005, Fig. 1; Ex. 1003 ¶ 182. Figure 3 of Chis additionally

shows that access control panel 115 contains processor 240. Ex. 1005, Fig. 3.

Upon reviewing Petitioner’s contentions, we determine that this alternative analysis of Chis, which is not reliant on Petitioner’s construction of “via,” does not suffer from the same deficiencies we identified above with respect to claim 1–10. We have reviewed the remainder of Petitioner’s assertions as to the other limitations of claim 14 and find them likewise sufficiently persuasive. For example, the claim requires a step of initializing the reader in a unidirectional communication mode, and Petitioner notes that Chis initializes its reader in “default mode” which is OSDP (bidirectional). Pet. 57. But as it did in the context of claim 12, Petitioner relies on Guthery’s disclosure of initializing a reader in unidirectional mode until an upstream device signals a mode change. *Id.* (citing Ex. 1006, 17:23–37, Ex. 1003 ¶ 178). We find Petitioner’s analysis, and its explanation why a person of ordinary skill in the art would have made the modification to Chis’ method, to be supported for the same reasons discussed above in connection with claim 12.

For these reasons, we conclude that Petitioner has sufficiently demonstrated, for purposes of institution, that claim 14 would have been obvious over the combined disclosures of Chis and Guthery.

D. Asserted Obviousness Based on Chis, Guthery, and Adams or Panian

Petitioner contends that claim 11 is unpatentable because it would have been obvious over the combined disclosures of Chis, Guthery, and Adams. Pet. 61–69. Similarly, claim 13 is alleged to be unpatentable as having been obvious over the combined disclosures of Chis, Guthery, and

Panian. *Id.* at 70–84. Both of these claims are independent, and do not contain the “via” limitation that undercut Petitioner’s analysis in the prior ground.

Claim 11 is similar in structure to claim 12, discussed above, but instead of reciting non-volatile storage, claim 11 recites a “one-time programmable fuse” disposed between the unidirectional communication interface and the processor. For this limitation, Petitioner relies on Adams, which allegedly discloses “the well-known concept of using a one-time programmable fuse to permanently disable an interface.” Pet. 9 (citing Ex. 1008 ¶ 39; Ex. 1003 ¶ 56). Petitioner contends that a person of ordinary skill in the art would have had reason to incorporate such a fuse into Chis’ reader, in order to permanently disable the less-secure Wiegand circuitry after the reader is placed in OSDP mode. *Id.* at 63–64, 66–68.

Claim 13 is also similar to claim 12, but instead of recording the bidirectional mode in non-volatile storage, claim 13 recites establishing a hysteresis timer that is reset upon reception of a bidirectional message, and which reverts the reader into a hunt mode upon expiration. Petitioner relies on Panian for this limitation, contending that the reference “teaches the concept of using a timer to control the timing of when to revert to a default communication mode.” Pet. 10 (citing Ex. 1009, 7:66–8:2; Ex. 1003 ¶ 57). According to Petitioner, both Panian and Chis involve switching communication interfaces using a switch, and Panian is directed to “automatically detecting what type of external device a mobile communication device is connected to and automatically switching the mobile communication device to an appropriate mode.” *Id.* at 79 (citing Ex. 1009, Abstract). Petitioner contends that a person of ordinary skill in the

art would have implemented Panian's timer in such a switch, in order to correct unwanted mode switching caused by a false signal, or to allow the reader to re-evaluate which communication interface to use if the OSDP interface later becomes inactive. *Id.* at 83 (citing Ex. 1003 ¶ 241).

We have reviewed Petitioner's contentions as to Adams and Panian, and the expressed rationales for combining the references with Chis and Guthery, and find them persuasive on this preliminary record. As such, we find that Petitioner has established a reasonable likelihood of success as to claims 11 and 13 on these grounds of unpatentability.

E. Asserted Obviousness over Combinations Including Chis and Brennan

Petitioner challenges the remaining claims of the '830 patent over various combinations of prior art, each of which includes Chis and Brennan. Claim 15 is said to be unpatentable as having been obvious over the combined disclosures of Chis and Brennan. Pet. 84–94. Petitioner contends that claims 16 and 17 are unpatentable as having been obvious over the combined disclosures of Chis, Brennan, and Guthery. *Id.* at 95–97. Claims 18 and 19 are challenged as having been obvious over the combined disclosures of Chis, Brennan, and Adams. *Id.* at 98–99. And claim 20 is said to be unpatentable as having been obvious over the combined disclosures of Chis, Brennan, and Panian. *Id.* at 99.

All of these challenged claims depend from claim 15, which is directed to a computer-implemented method in which an electronic credential reader is initialized in a hunt mode which utilizes a unidirectional communication interface. The method also recites steps of monitoring a bidirectional communications interface for input data, setting the reader to a

bidirectional mode upon detecting such data, and recording this mode in a non-volatile storage. For these grounds, Petitioner relies on Chis as combined with Brennan.

1. Brennan

Brennan is directed to a network for reading utility meter systems which includes multiple meter interface units (MIUs) that collect data from the meters and then transmit that data to a primary data collector. Ex. 1010, Abstract, code (57). Brennan teaches that upon installation, the MIUs transmit data in a “one-way” mode, but will simultaneously listen for collectors which use “continuous two-way communications.” *Id.* ¶ 25. Petitioner contends that Brennan’s MIUs therefore are “a device that listens for bidirectional messages while also transmitting data via a unidirectional interface.” Pet. 87.

2. Analysis

Petitioner’s contentions as to claim 15 and are similar to those discussed above with respect to claim 14, as both claims are to computer-implemented methods having similar steps. Petitioner contends that claim 15’s requirement of initializing the reader in a “hunt mode” is disclosed by Chis, whose reader is initially set to a “default mode” that monitors for messages received via OSDP. Pet. 85–86 (citing Ex. 1005, 2:55–63, 3:34–35; Ex. 1003 ¶ 249. Although Chis’ default mode is bidirectional, Petitioner contends that claim 15’s requirement that the initial “hunt mode” be unidirectional is taught by Brennan, namely its disclosure that the MIUs listen for bidirectional messages while initially transmitting via unidirectional interface. *Id.* at 88 (citing Ex. 1010 ¶ 25). Chis also discloses that, upon receiving input data via OSDP message, its reader

switches from its “default mode” to a dedicated OSDP (bidirectional) mode. *Id.* at 89–90 (citing Ex. 1005 3:39–42).

Petitioner contends that a person of ordinary skill in the art would have combined the disclosures of Cris and Brennan, because both address problems involving device code communication switching, more particularly communication mode/interface control. *Id.* at 90–91. According to Petitioner, Brennan discloses a “simple variation” on Cris, namely listening for a bidirectional message while also transmitting data via the unidirectional interface. *Id.* at 92. Petitioner argues that a person of ordinary skill in the art would have had reason to modify Cris’s reader to do the same, because it would “maximize the reader’s ability to switch to OSDP mode whenever appropriate” instead of switching permanently to Wiegand mode. *Id.* at 92–93.

Upon review, we conclude that Petitioner has sufficiently set forth where Cris and Brennan disclose all limitations of claim 15, and has articulated a reasonable rationale why a person of ordinary skill in the art would have modified Cris with Brennan’s disclosures to arrive at the claimed invention. We, therefore, find sufficient basis on the preliminary record to conclude that Petitioner has a reasonable likelihood of success as to claim 15.

Dependent claims 16–20 add limitations to the method of claim 15, either requiring added functionality from the hunt mode such as reverting to hunt mode upon receipt of a reset message (claim 16), or adding additional features discussed above such as a one-time programmable fuse to permanently disable unidirectional communication (claim 19). Petitioner relies on combinations of Cris and Brennan with prior art discussed above,

such as Guthery, Adams, or Panian, to supply these disclosures. Pet. 95–99. We have reviewed the prior art in view of Petitioner’s contentions and find that they adequately support a conclusion that Petitioner has demonstrated a reasonable likelihood of success as to these claims.

CONCLUSION

Upon consideration of the Petition and the evidence presented, we determine that Petitioner has demonstrated a reasonable likelihood of success in proving that at least one of the challenged claims of the ’830 patent is unpatentable. We therefore institute trial on all challenged claims and grounds raised in the Petition.

At this stage of the proceeding, we have not made a final determination as to the patentability of any challenged claim or as to the construction of any claim term. Any final determination will be based on the record developed during trial. We place Patent Owner on express notice that any argument not asserted in a timely-filed Response to the Petition, or in another manner permitted during trial, shall be deemed waived.

ORDER

It is hereby

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–20 of U.S. Patent 10,467,830 B2 is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the ’830 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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