

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

EARLY WARNING SERVICES, LLC,
Petitioner,

v.

INTELLECTUAL VENTURES II LLC,
Patent Owner.

IPR2024-01221
Patent 7,314,167 B1

Before KEVIN F. TURNER, JOHN D. HAMANN, and
IFTIKHAR AHMED, *Administrative Patent Judges*.

AHMED, *Administrative Patent Judge*.

JUDGMENT
Determining No Challenged Claims Unpatentable
Denying Petitioner's Motion to Exclude
35 U.S.C. § 318(a)

I. INTRODUCTION

Early Warning Services, LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1, 2, 4, 5, 7, 8, 12, 13, 17, 19–21, 23, 24, 26, 27, 29, 30, 34, 39–41, and 43 (the “challenged claims”) of U.S. Patent No. 7,314,167 B1 (Ex. 1001, “the ’167 patent”). Intellectual Ventures II LLC (“Patent Owner”) filed a Preliminary Response. Paper 6. Applying the standard set forth in 35 U.S.C. § 314(a), we instituted an *inter partes* review of the challenged claims. Paper 10 (“Inst. Dec.”).

After institution, Patent Owner filed a Patent Owner Response (Paper 16, “PO Resp.”), Petitioner filed a Reply to Patent Owner’s Response (Paper 19, “Reply”), and Patent Owner filed a Sur-reply (Paper 21, “Sur-reply”). An oral hearing was held on November 13, 2025, and a copy of the transcript was entered in the record. Paper 33 (“Tr.”).

We have jurisdiction pursuant to 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of the claims on which we instituted trial. To prevail, Petitioner must prove unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 316(e) (2018); 37 C.F.R. § 42.1(d) (2024). Having reviewed the arguments and the supporting evidence, we determine that Petitioner has not demonstrated, by a preponderance of the evidence, that the challenged claims are unpatentable.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner identifies itself as the real party in interest. Pet. 8. Petitioner further identifies the following entities having “minority interests” in Petitioner: Bank of America, JPMorgan Chase Bank, PNC Bank, Wells

Fargo Bank, Truist (formerly BB&T), Capital One, and U.S. Bank. *Id.* at 9. Patent Owner identifies itself as the real party in interest. Paper 4, 1.

B. Related Matters

The parties identify the following proceeding as a related matter involving the '167 patent: *Assurant, Inc. v. Intellectual Ventures II LLC*, No. 24-cv-344 (D. Del.) and *Intellectual Ventures II LLC v. JPMorgan Chase & Co.*, No. 2:23-vc-00523 (E.D. Tex.) (dismissed). Pet. 9; Paper 4, 1.

C. The '167 patent

The '167 patent, titled “Method and Apparatus for Providing Secure Identification, Verification and Authorization,” issued on January 1, 2008. Ex. 1001, codes (45), (54). The '167 patent relates to “methods and devices for providing secure identification, verification, and authorization using a portable secure device.” *Id.* at 1:8–11. The '167 patent explains that providing authentication for online and e-commerce transactions is necessary to prevent credit card fraud but if such authentication relies on information that is static, it “may be of nominal effectiveness.” *Id.* at 1:13–38. Moreover, even if a system employs a dynamic variable to generate a password, that “dynamic variable is time-dependent” and “requires time-dependent synchronization and shared secret keys.” *Id.* at 1:39–63. The '167 patent discloses an apparatus for providing a secure transaction. *Id.* at 3:17–4:8.

Figure 1 of the '167 patent is reproduced below.

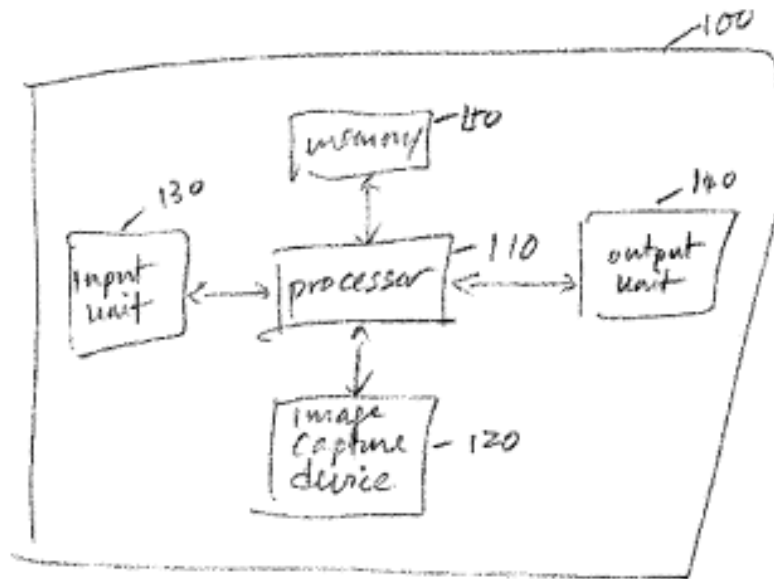


FIG. 1

Figure 1 shows secure device 100 having processor 110, image capture device 120, input unit 130, output unit 140, and memory 130. *Id.* at 5:6–11. Secure device 100 “may be incorporated as part of a token, card, badge, key fob, personal digital assistant (PDA), and cellphone.” *Id.* at 5:11–13. Processor 110 may include control logic configured to control operations of secure device 100 such as managing decryption and encryption functions. *Id.* at 5:14–16. Image capture circuit 120 may include a digital camera used to capture image and/or video information such as a one-dimensional barcode or a multi-dimensional barcode. *Id.* at 5:21–32. Input device 130 may include a keypad, a touch sensitive screen, a biometric input unit, or other types of devices that are capable of allowing a user to provide input information. *Id.* at 5:33–41. Output unit 140 may include a Liquid Crystal Display (LCD) used to display information to a user and memory 150 may

include any type of storage devices that can be used to store information. *Id.* at 5:42–46.

Figure 2 is a flow diagram illustrating general operations of the secure device, and is reproduced below. *Id.* at 4:18–20.

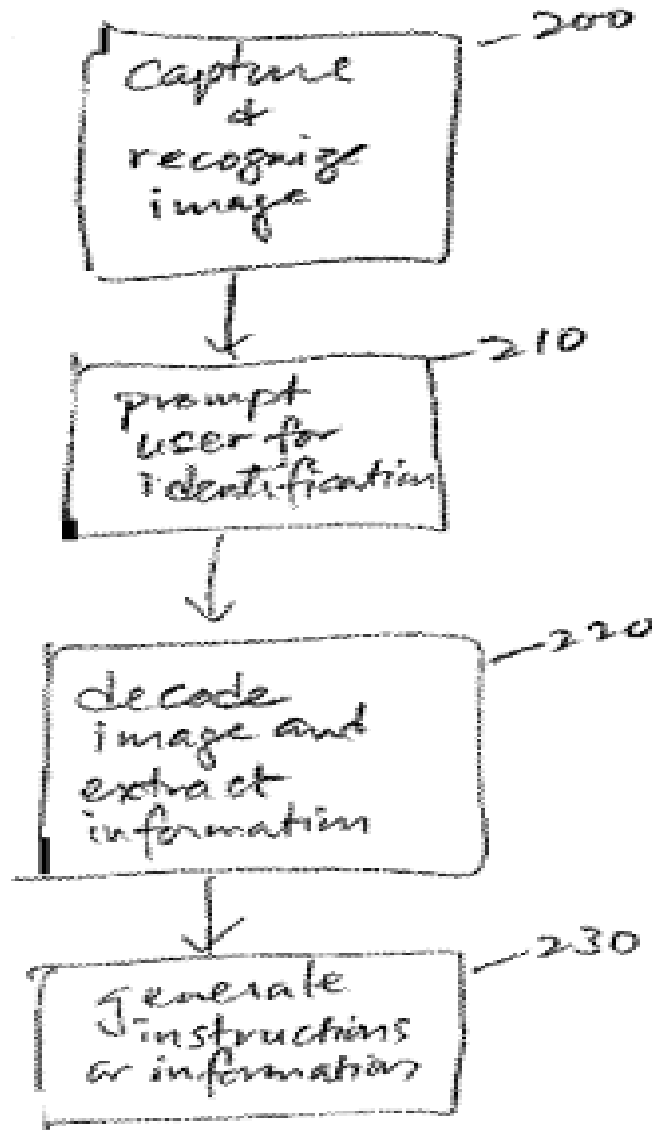


FIG. 2

Figure 2 shows that the image capture device captures information from an image such as a barcode with embedded information that is relevant to a transaction (step 200). *Id.* at 5:47–67. The secure device then prompts a user to provide identification information via the input unit (step 210), and that information “may include a personal identification number (PIN), a password, and/or biometric information . . . to ensure that the user is authorized to use the secure device.” *Id.* at 6:1–7. The processor then decodes the captured image and extracts the relevant embedded information (step 220). *Id.* at 6:8–22. The device then checks the identification information provided by the user to verify or authenticate the user’s identity and upon successful verification, generates appropriate instructions or information for the user (step 230). *Id.* at 6:22–33. In one embodiment, the secure device “can be used to provide offline digital signature to effect authorization.” *Id.* at 9:36–42, 10:29–31, Fig. 7. The secure device may also generate a confirmation signature or an authorization code that may be transmitted in as an email or SMS message. *Id.* at 9:62–10:4.

D. Challenged Claims

Petitioner challenges claims 1, 2, 4, 5, 7, 8, 12, 13, 17, 19–21, 23, 24, 26, 27, 29, 30, 34, 39–41, and 43 of the ’167 patent. Claims 1, 19, 23, 39, and 43 are independent. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. [Preamble 1] An apparatus for providing a secure transaction, the apparatus comprising:
 - [1a] an image capture device configured to capture an image, the image having information embedded therein including information relating to a transaction;
 - [1b] a memory configured to store predetermined information;

- [1c] an input unit configured to receive input information provided by a user;
- [1d] a processor configured to:
- [1e] verify the user based on the input information to ensure that the user is authorized to use the apparatus; and
- [1f] generate an output based on the information embedded in the image and the predetermined information; and
- [1g] an output unit configured to forward the output generated by the processor, wherein
- [1h] the output includes a digital signature to be used to signify authorization by the user with respect to the transaction.

Ex. 1001, 16:22–38 (Petitioner’s annotations added); Pet. 71–80.

E. Asserted Grounds of Unpatentability

We instituted trial based on the following grounds of unpatentability:

Claims Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, 43 ²	102(b)	Wang ³

¹ Because the challenged claims of the ’167 patent have an effective filing date before March 16, 2013, patentability is governed by the pre-AIA versions of 35 U.S.C. §§ 102, 103.

² Petitioner groups claims 1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, and 43 for its Ground 1 and asserts both anticipation by Wang and obviousness over the combination of Wang and Drummond under Ground 1. Pet. 29. For clarity, we group these anticipation contentions as Ground 1a and the obviousness contentions as Ground 1b.

³ U.S. Patent Appl. Pub. No. 2002/0023215 A1, published Feb. 21, 2002 (Ex. 1004, “Wang”).

Claims Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, 43	103	Wang, Drummond ⁴
1, 2, 4, 7, 12, 13, 17	102(b)	Wang
19–21, 39–41	103	Wang, Drummond
8, 30	103	Wang, Denso ⁵
13	103	Wang, Raines ⁶
1, 4, 5, 7, 23, 26, 27, 29, 43	103	TAO, ⁷ PTM, ⁸ Wang

Pet. 29–30. Petitioner relies on declaration testimony of Thomas Purves (Exs. 1002, 1036) to support its challenges. Patent Owner relies on declaration testimony of Kai Johnson (Exs. 2001, 2014) and Dr. Kevin Berisso (Ex. 2029) to support its arguments.

III. ANALYSIS

A. Legal Standards

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review

⁴ U.S. Patent Appl. Pub. No. 2003/0217005 A1, published Nov. 20, 2003 (Ex. 1008, “Drummond”).

⁵ JP Patent Appl. Pub. No. 2002-109420 A, published Apr. 12, 2002, with English Language Translation (Ex. 1026, “Denso”). We refer to portions of the English Language Translation portion of this exhibit herein.

⁶ U.S. Patent Appl. Pub. No. 2004/0193538 A1, published Sept. 30, 2004 (Ex. 1009, “Raines”).

⁷ Wayback Machine Capture dated July 26, 2024 of Stevens Creek, *Take An Order!* (Aug. 25, 2004), <http://www.stevenscreek.com/palm/takeanorder.html> (retrieved from <https://web.archive.org/web/20040825011003/http://www.stevenscreek.com/palm/takeanorder.html>) (*see* Pet. 22, n3; Ex. 1034)) (Ex. 1005, “TAO”).

⁸ Palm Treo Manual (using your Treo), 2004 (Ex. 1006, “PTM”).

petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). Although the elements must be arranged or combined in the *same way* as in the claim, “the reference need not satisfy an *ipsissimis verbis* test,” i.e., identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Further, to be anticipating, a prior art reference must be enabling and must describe the claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000); *In re Paulsen*, 30 F.3d 1475, 1479 (Fed. Cir. 1994).

As set forth in 35 U.S.C. § 103(a),

[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of

nonobviousness.⁹ *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). An obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007); accord *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1259 (Fed. Cir. 2007). However, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Instead, Petitioner must articulate a reason why a person of ordinary skill in the art would have combined the prior art references. *In re NuVasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016).

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to resolve the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.*

⁹ Neither party presents evidence of objective considerations of non-obviousness.

Petitioner contends that a person of ordinary skill in the art would have had “a relatively high level of skill, such as having at least a bachelor’s degree in the field of computer science and/or electrical engineering, together with 2–3 years in the financial technology sector.” Pet. 16. Petitioner adds that a person having ordinary skill in the art “would have knowledge of the commercial and scientific literature pertaining to securing transactions” and “would also have knowledge of processing devices.” *Id.* at 16–17 (citing Ex. 1002 ¶ 19).

Patent Owner responds that a person of ordinary skill in the art would have had at least a bachelor’s degree in the field of computer science and/or electrical engineering, engineering technology/industrial engineering, together with at least 2-3 years of experience in the use of Automatic Identification (Auto ID) technology and, in particular barcode technology, in connection with financial transactions. PO Resp. 21 (citing Ex. 2029 ¶ 68).

Based on our review of the complete record, we determine that Petitioner’s stated level of ordinary skill in the art is reasonable because it is consistent with the evidence of record, including the asserted prior art. The field of the ’167 patent “relates generally to secure transactions, and more specifically, to methods and devices for providing secure identification, verification, and authorization using a portable secure device.” Ex. 1001, 1:8–11. The ’167 patent seeks “to provide methods and devices that are capable of providing secure transactions in a more efficient manner.” *Id.* at 3:11–13.

Accordingly, we adopt Petitioner’s definition. We note, however, that our patentability analysis would be the same under Patent Owner’s definition.

C. Claim Construction

In *inter partes* reviews, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). See 37 C.F.R. § 42.100(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. See *Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. See *id.* at 1317–19.

Petitioner contends that all but three claim terms should be given their plain and ordinary meaning: “forward,” “image capture device,” and “predetermined information.” Pet. 13–16. Patent Owner proposes construction of two claim terms: “image capture device configured to capture an image” and “the image having information embedded therein.” PO Resp. 25–32. Below, we address the parties’ claim construction disputes as to the two terms proposed by Patent Owner.

1. Image capture device

Petitioner proposes that “image capture device” be construed as “any device that can capture an image, such as a barcode scanner.” Pet. 15 (citing Ex. 1002 ¶ 58). At institution, based on a preliminary record, we rejected Patent Owner’s proposed construction of “image capture device” as “a device that can capture an image or video, such as a still-image camera or video camera.” Inst. Dec. 21–22.

In its Patent Owner Response, Patent Owner contends that a person of ordinary skill in the art would have understood an “image capture device

configured to capture an image,” which is recited in combination with a processor configured to “generate an output based on the information embedded in the image,” to be referring to an *imaging-based* barcode reader and not a laser-based barcode scanner. PO Resp. 26. Patent Owner argues that “it was well accepted by those in the field of automatic identification that bar code laser scanners (on the one hand) and imaging (or image-based) barcode readers (on the other hand) operated differently and represented fundamentally different types of barcode readers.” *Id.* at 27–28 (citing Ex. 2024, 1:19–39; Ex. 2029 ¶ 70). According to Patent Owner, practitioners in the art at the time of the invention “clearly understood that there were significant differences between barcode laser (flying- spot) scanners and imaging readers (based on image capture),” and understood that the term “captured image” meant an image captured by imaging-based barcode readers. *Id.* at 27–29 (citing Ex. 2029 ¶¶ 71–73; Ex. 2025, 3:4–49). According to Patent Owner, practitioners classified “laser scan engine” based barcode readers separately from “image sensor based” barcode readers. *Id.* at 29 (citing Ex. 2026, 1:19–47). Thus, Patent Owner argues that a person of ordinary skill in the art would have understood “image capture device” solely in connection with image-based readers. *Id.* (citing Ex. 2029 ¶ 75).

Petitioner responds Patent Owner’s “narrow construction is inconsistent with the plain and ordinary meaning of this term, as well as their expert’s deposition testimony, and should be rejected.” Reply 4. Petitioner argues that the claim term is rooted in the term “image” and there is nothing in the ’167 patent that limits an image to a “barcode.” *Id.* (citing Ex. 1001, 5:24–25). Petitioner contends Dr. Berisso testified on cross-examination that the Specification indicates that the image “can be displayed

in another form.” *Id.* (citing Ex. 1048, 67:13–20). Petitioner further contends that the Specification describes several other types of images, including “a unique number,” which is different from a barcode. *Id.* at 4–5 (citing Ex. 1001, 7:55–61). Petitioner also argues that the Specification indicates that a printed barcode is one type of “image.” *Id.* at 5–7 (citing Ex. 1001, 10:29–37, Fig. 7; Ex. 1048, 160:13–16, 161:18–25). Petitioner therefore argues that the term “image capture device” is “any device that can capture that image, i.e., can capture the printed object or symbol,” including a laser-based barcode scanner. *Id.* Petitioner further relies on Dr. Berisso’s testimony as confirming that laser-based barcode scanners can capture barcodes. *Id.* at 7–8 (citing 111:22–112:16, 114:1–4).

On the complete record, we agree with Patent Owner that the term “image capture device” refers to an *imaging-based* barcode reader and not a laser-based barcode scanner because we are persuaded that claim language and Specification support that interpretation and also because Patent Owner persuasively shows that a person of ordinary skill in the art would have understood the term as such.

Claim 1 recites an “image capture device configured to capture an image.” Ex. 1001, 16:24–25. The plain meaning of the claim term requires that the image be *captured*, not just scanned. The claim further requires “generating an output based on the information embedded in the image,” requiring that information is retrieved from the captured image. *Id.* at 16:32–33. A device that does not capture an image is not an “image capture device” under the plain language of the claim. A laser-based barcode scanner employs light reflected from a laser beam to “generate an electrical signal that corresponds to the bars and spaces in the barcode being scanned.” *See* Ex. 2029 ¶¶ 42–43 (explaining in detail how laser-based barcode

scanners work); *see also* Ex. 1002 ¶ 59 (“Laser barcode scanners work by self-emitting a laser light across a code to be scanned, with a sensor tuned to capture the reflected light from the laser.”). It simply does not *capture* an image.

The Specification discloses that an image capture device may capture various types of barcodes, including one-dimensional barcodes:

The image circuit 120 may include a digital camera or other types of image capturing devices. The image capture circuit 120 is used to capture image and/or video information. The *captured image* and/or video information *may include* a barcode including [a] one-dimensional barcode, such as a linear barcode, or a multi-dimensional barcode, such as a 2D barcode [. . .].

Ex. 1001, 5:21–29 (emphasis added). Relying on this disclosure, Petitioner contends that the term “image capture device,” is “any device that can capture that image, i.e., can capture the printed object or symbol,” including a laser-based barcode scanner. Petitioner thus defines the device based entirely on the types of images that may be captured, and we are not persuaded that that is proper reading of the claim language or the Specification. The Specification makes it clear the image capture circuit is used to *capture* the image and/or video information. *Id.* at 5:22–23. The example the Specification provides is a digital camera—a device conventionally used to capture images. *Id.* at 5:21–22.

The other disclosure from the Specification that Petitioner points us to is that relating to Figure 7 of the ’167 patent. Reply 5–7 (citing Ex. 1001, 10:29–35, Fig. 7). Referring to Figure 7, the Specification discloses that “printed form 700 includes certain transaction information as well as an image 710, such as a barcode, or a set of images, such as a set of barcodes.” Ex. 1001, 10:29–35. Image 710 in Figure 7, however, is a

two-dimensional barcode, and as discussed below, laser-based barcode scanners are incapable of scanning or reading such barcodes. This disclosure further supports requiring a device that can capture a two-dimensional image. The plain language of the claim and the Specification therefore do not support finding laser-based barcode scanners to be within the scope of an “image capture device.”¹⁰

Further, Patent Owner offers extensive extrinsic evidence, including expert testimony, to support that a person of ordinary skill in the art would have understood “image capture device” to refer to imaging-based barcode readers and not laser-based scanners. PO Resp. 10–13, 26–30 (citing Ex. 2029 ¶¶ 66–76).

As the Federal Circuit has explained, “extrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1319 (Fed. Cir. 2005); *see also Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 331 (2015) (permitting use of extrinsic evidence to understand the meaning of a term in the relevant art during the relevant time period). The Federal Circuit has also cautioned that extrinsic evidence may be useful only when considered in the context of the intrinsic evidence. *Phillips*, 415 F.3d

¹⁰ The prosecution history of the ’167 patent does not provide any guidance on the meaning of the disputed claim term. *See* Pet. 13 (characterizing the examination of the ’167 patent as “short and unremarkable”); *see generally* Ex. 1003.

at 1319; *see also Virginia Innovation Scis., Inc. v. Samsung Elecs. Co.*, 614 Fed. Appx. 503, 510 (Fed. Cir. 2015) (the extrinsic evidence must be consulted in cases where “the intrinsic evidence before us does not provide a complete understanding of the term”).

Here, Dr. Berisso testifies that “[a]t the time of the ’167 patent, it was well accepted by those in the field of automatic identification that bar code laser scanners (on the one hand) and imaging (or image-based) barcode readers (on the other hand) operated differently and represented fundamentally different types of barcode readers.” Ex. 2029 ¶¶ 47–49 (citing Ex. 2024, 1:19–2:9; Ex. 2025, 3:4–49). He further testifies that practitioners understood that laser based scanning barcode readers and imaging-based bar code readers were different types of devices, and referred to “*image capture*” solely in connection with imaging-based bar code readers. *Id.* ¶¶ 50–52 (citing Ex. 2026, 1:19–47); *see also id.* ¶¶ 70–75. We find Dr. Berisso’s testimony credible because it is consistent with the cited evidence.

Patent Owner’s cited evidence unambiguously distinguishes laser scanning readers as a separate class of readers that operate very differently than imaging-based readers. “In flying-spot laser scanning systems, a beam of light is swept across a target barcode, and the reflected and/or refracted light from the target is detected and processed to decode the barcode.” Ex. 2024, 1:22–25; *see also* Ex. 2026, 1:26–30. Imaging-based barcode readers, on the other hand, *capture* an image “using an array of pixels ([Charge Coupled Device (CCD) or Complementary Metal Oxide Semiconductor (CMOS)], for example), and the *captured image* is processed to decode the barcode.” Ex. 2024, 1:25–28; *see also* Ex. 2026, 1:31–36. It is thus clear from these references, that the terms “image” or “imaging” were

not used in the art in context of laser-based readers, and a person of ordinary skill in the art would have not used the term “image” when referring to a laser-based reader.

When the Specification is read in context of this distinction that existed in the art, it is further evident that the claims refer to devices capable of capturing an image, i.e., imaging-based devices, not laser scanning bar code readers. The examples that the Specification provides—digital cameras capable of capturing images and video—are consistent with the understanding in the prior art. *See, e.g.*, Ex. 1001, 5:21–22; 5:50–51. This distinction also makes clear that a person of ordinary skill in the art would not have understood the mention of one-dimensional barcodes (*id.* at 5:51–52) as transforming the plain meaning of the term “image capture device” to include any device capable of scanning such a barcode.

Dr. Berisso also testifies that “[e]very barcode illustrated in the figures of the ’167 patent is a 2D barcode in the format of a QR Code,” and “it was understood by those of skill in the art at the time of the ’167 patent that it was impossible to read 2D codes like the QR Codes illustrated in the ’167 patent with laser-based barcode scanners.” Ex. 2029 ¶¶ 61–62 (citing Ex. 2022, 1:16-18; Ex. 2024, 2:8-9); *see also* Ex. 1048, 40:1–4 (testifying that because two-dimensional barcodes have a vertical component, it is *impossible* to use a conventional laser scanner to read a two-dimensional barcode). The processor then decodes these captured images, including by using any decryption algorithm necessary. Ex. 1001, 6:10–13, 6:15–19 (“For example, if the image is created using a public key, the corresponding private key . . . maybe used to decrypt or decode the captured image.”). We are persuaded that the Specification, in view of Dr. Berisso’s testimony, further supports Patent Owner’s proposed construction.

Petitioner fails to rebut any of Patent Owner's evidence on claim construction. *See* Reply 3–8. Instead, Petitioner argues that “image capture device” means “any device that can capture an image.” *Id.* at 8. Petitioner's proposed construction, however, merely rewords the claim term and fails to offer any meaningful construction to the term. Moreover, Petitioner's position appears to be that “image capture” does not really require capturing an image. *See* Tr. 8:4–25 (arguing that capturing an image does not require retaining it or being able to do something with it). We find that interpretation to be inconsistent with the plain and ordinary meaning of the word “capture.”

We also have considered Petitioner's argument that Dr. Berisso's admitted on cross-examination that laser-based barcode scanners can capture barcodes similar to imaging-based scanners. Reply 7–8 (citing Ex. 1048 163:25–164:4). When read in context, Dr. Berisso's testimony relates to a laser-based barcode scanner being able to scan a printed barcode, which Patent Owner does not dispute. *See* Ex. 1048, 162:2–164:4. Elsewhere during the cross-examination, Dr. Berisso testified, consistent with his declaration, that a laser-based barcode scanner is unable to capture a two-dimensional barcode, which only imaging-based scanners are able to do. *Id.* at 95:17–96:13.

Accordingly, in light of Patent Owner's un rebutted evidence, including Dr. Berisso's testimony, when construed in light of the Specification, we are persuaded that correct meaning of the term “image capture device” does not include laser-based scanner devices.

2. *Embedded*

Each of the independent claims recite information that is “embedded” in an image, and according to Patent Owner, a person of ordinary skill in the art would have understood that *human readable text* information in the form of unencrypted alphanumeric characters is outside the scope of “embedded” information. PO Resp. 31 (citing Ex. 2029 ¶ 77). Patent Owner argues that the Specification of the ’167 patent never uses the term “embedded” to refer to human readable text, which is consistent with dictionary definitions of the term “embedded” as “incorporated into something else.” *Id.* (citing Ex. 2027, 1; Ex. 2028, 1; Ex. 2029 ¶ 78). Patent Owner points to Petitioner’s expert’s testimony that “embedded” information includes information contained in any barcode. *Id.* (citing Ex. 1036 ¶ 8).

Petitioner responds that Patent Owner’s construction contradicts the ’167 patent Specification and should be rejected. Reply 9. Petitioner contends that the plain and ordinary meaning of “embedded” does not exclude human readable alphanumeric characters and the Specification provides several examples of alphanumeric characters that can contain embedded information. *Id.* (citing Ex. 1001, 7:55–59). Petitioner further contends that Patent Owner’s expert agreed that “a numeric message could include embedded information, such as the message that is intended for the recipient,” and that “alphanumeric characters can contain embedded information.” *Id.* at 9–10 (citing Ex. 1048, 72:21–23, 25, 214:8–11). Instead, Petitioner argues, “the image having information embedded therein” should be construed as any information ‘derived from’ an image, whether contained in a barcode, in alphanumeric characters, or in some other type of image.” *Id.* at 10.

We agree with Patent Owner that Petitioner’s broad interpretation of the term effectively reads the term out of the claim. *See* Sur-reply 11. Claim 1, for example, recites “the image having information *embedded* therein,” and the term “embedded” requires that the information is incorporated in some manner therein. Plainly visible text in an image is not “information embedded therein”; it is just “information therein.” We are therefore persuaded by Patent Owner that ascribing no meaning to “embedded” violates the basic tenet of claim construction that all terms have meaning. *Id.*

The ’167 patent instead contemplates information that is encoded *into the image* as being information embedded therein. For example, the Specification discloses that “[t]he processor may also be configured to *decode the information embedded* in the image for use in generating the output by using an encryption, decryption or message authentication code algorithm.” Ex. 1001, 3:33–35 (emphasis added). Further, the Specification consistently discloses barcodes as the only format by which information is embedded in an image. *See, e.g., id.* at 5:48–57, Fig. 2. In context of Figure 2, the Specification discloses that the processor decodes the captured image or video and “extracts the relevant embedded information.” *Id.* at 6:7–10. The word “extracts” further suggests that the embedded information is not plainly read text.

We agree with Petitioner that the Specification discloses that the image may include a unique number, nonce, a transaction number or a random number, a number that the secure device will use to derive the authentication code. Reply 9 (citing 1001, 7:55–59). That, however, refers to the *types* of information that image can include, not the manner in which that information is made part of the image. Elsewhere, the Specification

discloses that “the information embedded in the image may include information relating to a password to be used to unlock a secured document.” Ex. 1001, 3:52–54. Password information generally would not be information that would be displayed as plain readable text within the image. We are therefore not persuaded that disclosure of these different *types* of information that may be embedded in the image suggests a broader scope of the term *embedded*, as argued by Petitioner.

And although we agree with Petitioner that the term “image” is not limited to barcodes, Petitioner fails to point us to anything from the Specification that shows the claimed information being embedded in any image other than barcodes. *See, e.g.*, Ex. 1001, Figs. 3–8, 10, 11; Tr. 14:21–15:19 (pointing to barcodes as examples of images disclosed in the Specification). Nor does Petitioner explain how the Specification supports interpreting “alphanumeric characters” as a “type of image.” Reply 10.

Instead, Petitioner looks elsewhere to support its broad construction. For example, Petitioner argues that Dr. Berisso’s testimony in context of children’s decoder rings supports that information can be embedded in numeric messages. Reply 9 (citing Ex. 1048, 72:21–23, 25). That misses the point. The issue is not whether information can be coded into numeric messages but instead whether a person of ordinary skill in the art would have understood the claims and Specification of the ’167 patent as supporting plainly viewable alphanumeric characters as information that was embedded in an image.

Petitioner’s expert testifies that the intrinsic evidence “supports a plain and ordinary meaning of ‘embedded’ that reads on any information *derived from barcodes*—whether encrypted, unencrypted, hidden, or unhidden.” Ex. 1036 ¶ 9 (emphasis added). Petitioner agrees with its expert

that embedded information needs to be *derived*, but argues that this information could be derived from elsewhere, not necessarily from the image.¹¹ Reply 10 (arguing that product information can be embedded in alphanumeric characters) (citing Ex. 1048, 214:8–11); *see also* Tr. 17:7–18:12. That argument is misplaced because the claim recites “information embedded *therein*,” which plainly does not include information from somewhere else. *See, e.g.*, Ex. 1001, 9:24–30 (explaining that the image is decoded to derive the embedded information).

Based on our review of the complete record before us, including the intrinsic and extrinsic evidence, we determine that one of ordinary skill in the art would have understood “the image having information embedded therein” to mean any information derived from or incorporated into the image and not plainly read alphanumeric characters that may be part of the image.

3. *Remaining Claim Terms*

We determine that it is not necessary to explicitly construe any other term or phrase for the purposes of this Decision, and we give all remaining claim terms their ordinary and customary meaning. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those 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))).

¹¹ Petitioner does not appear to dispute that the information that is visible as alphanumeric characters is not information that is derived from the image, but instead contends there may be *other* information embedded in that text. *See* Tr. 16:14–17:5.

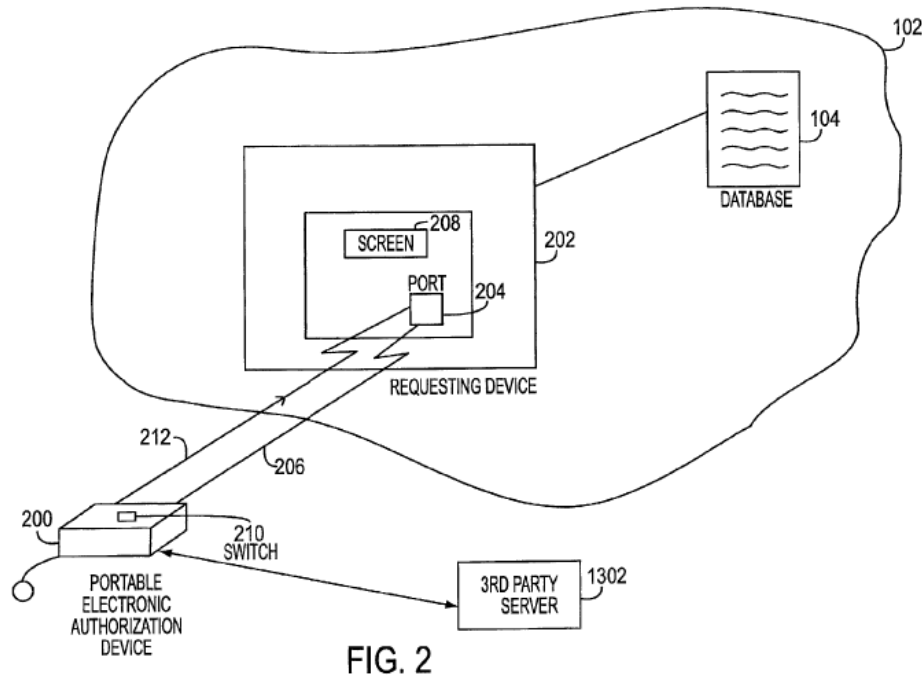
D. Ground 1a: Asserted Anticipation based on Wang

Petitioner asserts that Wang anticipates claims 1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, and 43.¹² Pet. 30–49.

1. Wang

Wang is a patent titled “Electronic Transaction Systems and Methods Therefor,” relating to “portable electronic authorization devices (PEADs) which advantageously and substantially eliminate the security risks associated with prior art techniques of approving transactions between a user and an electronic transaction system.” Ex. 1004, code (54), ¶ 2.

Figure 2 of Wang illustrates a PEAD for securely approving transactions vis-à-vis an electronic transaction system, and is reproduced below. *Id.* ¶ 19.



¹² As discussed above, we separate out Petitioner’s contentions presented in its Ground 1 as Grounds 1a and 1b.

Figure 2 above shows transaction system 202 including database 104 and requesting device 202, such as “an ATM machine, a computer terminal in a network, an automated library checkout terminal, a portable device, hand-held device or similar devices for permitting the user to transact business with the electronic transaction system,” that initiates a transaction approval process with PEAD 200 by transmitting, via communication port 204 and path 206 to PEAD 200, a transaction request pertaining to a proposed transaction. *Id.* ¶ 37. “The transaction request itself may include, for example, the transaction ID, the merchant’s name, the merchant’s ID, the time of the proposed purchase, and the like,” and may be encrypted for enhanced security. *Id.* The data pertaining to a proposed transaction may be reviewed by the user on screen 208 of requesting device 202 or on a display screen on PEAD 200. *Id.* ¶ 39. The user may then signify approval of the transaction by activating switch 210 on PEAD 200, which transmits an encrypted approval message with the user’s identification data, to requesting device 202 via path 212. *Id.*

Wang further discloses using a third-party server to implement an added level of security when a portable device, such as a cellphone, incorporates the functions of the PEAD. *Id.* ¶ 121. A decryption key is stored at the third-party server while a private is encrypted and stored on the portable device. *Id.* User authentication “may require the user to enter a password, to furnish fingerprints or a voice print, or other biometrics and/or identifying characteristics specific to the authorized user before PEAD 200 can be activated and employed for approving transactions.” *Id.* ¶ 72. Wang also discloses that the PEAD may be used as a self-checkout terminal, allowing the user to scan barcodes and generating a receipt that the user can sign electronically. *Id.* ¶ 115.

2. Independent Claim 1

Patent Owner argues that Wang fails to disclose both “an image capture device” and “the image having information embedded therein,” as recited independent claim 1. PO Resp. 38–41. We begin our discussion with the parties’ arguments on limitation 1[a].

a) Limitation 1[a]: an image capture device configured to capture an image, the image having information embedded therein including information relating to a transaction;

Petitioner contends that Wang discloses this limitation. Pet. 33. Petitioner contends that “Wang discloses an image capture device (e.g., a barcode or OCR scanner) that captures an image (e.g., a barcode or OCR image) that has information embedded therein (e.g., index data for price lookup) that is usable for generating an electronically signed receipt relating to a purchase transaction.” *Id.* (citing Ex. 1004 ¶ 115; Ex. 1002 ¶¶ 59, 62–63) (emphasis omitted). Petitioner points to Wang’s disclosure that “scanning in the . . . barcode using the input device built into the PEAD *such as a barcode scanner or OCR reader . . . generate[s] the receipt with the list of item prices by querying the item price using the barcode as the index for price lookup table.*” *Id.* (citing Ex. 1004 ¶ 115).

(1) Wang’s barcode scanner

Patent Owner contends that limitation 1[a] refers to an imaging-based bar code reader and not a laser-based barcode scanner. PO Resp. 37–38 (citing Ex. 2029 ¶ 88; Ex. 2024, 1:19–2:9; Ex. 2025, 3:4–49; Ex. 2026, 1:19–47). Patent Owner contends that although Wang discloses a barcode scanner, Wang is wholly silent as to the type or class of barcode scanner used for scanning the barcode. *Id.* at 38 (citing Ex. 1004 ¶ 115). Patent Owner further contends that an imaging-based barcode reader is also not

inherent in Wang because Wang's barcode scanner could have been implemented with a barcode laser scanner. *Id.* Patent Owner argues that a person of ordinary skill in the art would have understood Wang's method as requiring a barcode scanner, and would instinctively have used a linear barcode scanner. *Id.* at 33–34 (citing Ex. 2029 ¶ 81).

Petitioner responds that “since both imaging-based barcode scanners and laser-based barcode scanners constitute image capture devices, Wang's disclosure of a ‘barcode scanner’ satisfies the claimed ‘image capture device’ recited in the challenged claims.” Reply 11.

We agree with Patent Owner that Wang fails to disclose limitation 1[a]. Wang discloses a portable electronic authorization device (PEAD) that can be used as a self-checkout terminal. Ex. 1004 ¶ 115. In this context, Wang discloses

By entering the UPC code or barcode using keypad on the PEAD or scanning in the UPC code or barcode using the input device built into the PEAD such as a *barcode scanner or OCR reader*, the PEAD can generate the receipt with the list of item prices through the wireless network and Internet by querying the item price using the barcode as the index for price lookup table which is Stored in a Server System.

Id. (emphasis added).

As discussed above (Section III.C.1), we are persuaded by Patent Owner's arguments that the claimed “image capture device” refers to an imaging-based device and not a laser-based barcode scanner. Petitioner does not contend that Wang's disclosure of the barcode scanner necessarily refers to an imaging-based device, but argues that Wang's disclosure is sufficient because “both imaging-based barcode scanners and laser-based barcode scanners constitute image capture devices.” Reply 11. In light of our claim construction above, we disagree.

Patent Owner reproduces an example of a “UPC code or barcode” with Patent Owner’s annotations:



PO Resp. 33 (citing Ex. 2029 ¶ 81). Dr. Berisso testifies that “a standard UPC barcode typically include bars and spaces (green box (upper) above), as well as numeric characters in human readable text form (red (lower) box) positioned below the bars and spaces,” and a person of ordinary skill in the art would have understood that the only method disclosed in Wang for reading the barcode was to scan the barcode with a linear barcode scanner. Ex. 2029 ¶ 81; *see also id.* ¶ 89; Ex. 1048, 100:13–101:22 (testifying that a barcode scanner would not have referred to an imaging-based device). We credit Dr. Berisso’s testimony and are persuaded that Wang’s reference to a “barcode scanner” does not disclose or teach the claimed “image capture device.”

(2) Wang’s OCR reader

As to Petitioner contention that Wang’s disclosure of an OCR reader teaches the claim limitation, Patent Owner argues that “even if Wang’s OCR device functioned to capture an image of the human readable text under the bars and spaces, the captured image would still fail to meet the claim limitation requiring that there be “information embedded in the image.” PO Resp. 38–39 (citing Ex. 2029 ¶ 90).

Petitioner responds that “Wang’s disclosure of an OCR reader for capturing a barcode image (optionally including an alphanumeric image in the barcode), and deriving product information from that image, satisfies the ‘embedded’ information feature of the challenged claims.” Reply 13 (citing Pet. 33; Ex. 1004 ¶ 115; Ex. 1002 ¶¶ 59, 62–63; Ex. 1048, 141:11–142:13, 143:5–11).

As discussed above (Section III.C.2), we are persuaded by Patent Owner’s arguments that the claimed “embedded information” refers to information embedded or incorporated within an image, not plainly visible text. We are therefore persuaded that Wang’s disclosure of an OCR reader does not teach limitation 1[a]. Patent Owner persuasively argues that an OCR reader is incapable of recognizing a barcode. Dr. Berisso testifies that “Wang discloses the use of an OCR (optical character recognition) reader for scanning the UPC code *human readable text* positioned below the bars and spaces in the barcode.” Ex. 2029 ¶ 90; *see also* Ex. 1048, 169:20–170:5. Consistent with Dr. Berisso’s testimony, Mr. Purves also testifies that the term OCR “refers to a device capable of capturing an image of printed text and *converting visible text* into digital information that can be stored and processed as text by a computer.” Ex. 1002 ¶ 59 (citing Ex. 1035, 1) (emphasis added). Thus, an OCR reader merely converts embedded text into digital information. It is unable to *extract* information *embedded* in an image. And for the reasons discussed above (Section III.C.2), we are also not persuaded by Petitioner’s argument that information obtained from a database is within the scope of the claimed embedded information. We therefore do not agree with Petitioner’s contention that Wang discloses or teaches limitation 1[a].

(3) Conclusion Regarding Independent Claim 1

On the complete record, we determine, that Petitioner has not established by a preponderance of the evidence that Wang discloses limitation 1[a] of independent claim 1.

3. Independent Claims 23 and 43

Claim 23 and 43 recite “a method of providing secure transaction,” and also recite other limitations that are similar to those in claim 1. Ex. 1001, 17:48–64, 19:1–20:5. Petitioner contends that Wang anticipates independent claims 23 and 43. Pet. 38–41, 43. For limitations [23a] and [43b], Petitioner relies on its contentions as to limitation 1[a] relating to an image capture device and embedded information. Pet. 38, 43.

We determine that for the reasons discussed above with respect to claim 1, Petitioner has not shown by a preponderance of the evidence that claims 23 and 43 are anticipated by Wang.

4. Claims 4, 5, 7, 12, 17, 26, 27, 29, and 34

Petitioner contends that Wang anticipates claims 4, 5, 7, 12, 17, 26, 27, 29, and 34. Pet. 37–42. Claims 4, 5, 7, 12, and 17 depend from claim 1. Claims 26, 27, 29, and 34 depend from 23. Accordingly, Petitioner has not established by a preponderance of the evidence that Wang anticipates the subject matter of claims 4, 5, 7, 12, 17, 26, 27, 29, and 34.

5. Summary as to Petitioner’s Ground 1a

We determine that Petitioner has not shown by a preponderance of evidence that claims 1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, and 43 are anticipated by Wang.

E. Ground 1b: Asserted Obviousness Based on Wang and Drummond

Petitioner contends that claims 1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, and 43 are unpatentable as obvious over the combination of Wang and Drummond. Pet. 30–43.

1. Drummond

Drummond is a patent titled “Automated Banking Machine System and Method,” and “relates to an automated banking machine apparatus and system that are capable of use in a wide area network, and which provides a user with a remote electronic receipt or other record related to a transaction performed at the machine.” Ex. 1008, code (54), ¶ 2. Drummond discloses that its automated banking machine, may “initiate the sending of a non-paper transaction receipt to the customer,” “[t]he receipt may be sent using a wide area network, such as the Internet,” and “[t]he receipt may be an electronic receipt, for example a receipt in the form of an e-mail message.” *Id.* ¶ 247.

2. Claims 1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, and 43

For this obviousness ground, Petitioner relies on the same arguments and evidence as its Ground 1a (anticipation by Wang), discussed above, for the majority of claim limitations. *See* Pet. 33–43. Importantly, Petitioner relies solely on Wang as teaching independent claim limitations [1a], [23a], and [43b] relating to an image capture device and embedded information. Pet. 36, 41, 43. Accordingly, for the reasons discussed above with respect to Ground 1a, Petitioner has not established by a preponderance of the evidence, that the subject matter of claims 1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, and 43 would have been obvious to one of ordinary skill in the art over the combination of Wang and Drummond.

F. Ground 2: Asserted Anticipation based on Wang

In addition to Ground 1a based on anticipation by Wang, Petitioner provides alternate contentions that Wang anticipates claims 1, 2, 4, 7, 12, 13, and 17. Pet. 45–49. Petitioner, however, relies on the same disclosures of Wang as discussed above as disclosing limitation [1a]. Pet. 45.

Accordingly, for the reasons discussed above with respect to Ground 1a, Petitioner has not established by a preponderance of the evidence, that Wang anticipates independent claim 1 and dependent claims 2, 4, 7, 12, 13, and 17.

G. Ground 3: Asserted Obviousness based on Wang and Drummond

Petitioner asserts that claims 19–21 and 39–41 are unpatentable based on Wang and Drummond. Pet. 49–54. Claim 19 recites an “apparatus for providing a secure transaction,” and recites limitations that are similar to those in claim 1. Ex. 1001, 17:27–41. Claim 39 recites a “method for providing a secure transaction,” and recites limitations that are similar to those in claim 19. *Id.* at 18:48–64.

Petitioner contends that the combination of Wang and Drummond renders independent claims 19 and 39 obvious. Pet. 49–54. For limitations 19[a] and 39[b], Petitioner relies on its contentions as to limitation 1[a] relating to an image capture device and embedded information from its Ground 1a. *Id.* at 52–53. Accordingly, for the reasons discussed above with respect to Ground 1a, Petitioner has not established by a preponderance of the evidence, that the subject matter of independent claims 19 and 39, and dependent claims 20–21 and 40–41 would have been obvious to one of ordinary skill in the art over the combination of Wang and Drummond.

H. Ground 4: Asserted Obviousness based on Wang and Denso

Petitioner contends that claims 8 and 30 are unpatentable as obvious over the combination of Wang and Denso. Pet. 54–56.

Claims 8 and 30 depend from claims 1 and 23 respectively, and recite an additional limitation that “the barcode includes a multi-dimensional barcode.” Ex. 1001, 16:56–57, 18:15–16. Petitioner asserts that “[a]s discussed above in Grounds 1 and 2, Wang describes an apparatus and method for performing secure transactions.” Pet. 54 (citing Ex. 1004 ¶ 2). Petitioner relies on Denso as teaching the additional limitation. Pet. 56 (citing Ex. 1026 ¶ 13).

Patent Owner responds that “Ground 4 is deficient because it fails to explain how the elements in the base claims (i.e., claim 1 is the base claim for claim 8, and claim 23 is the base claim for claim 30) are being mapped to the cited references.” PO Resp. 41. For example, Patent Owner argues, “it is not apparent whether the Petition is relying on its mapping of claim 1 as set forth in Ground 1 or its mapping of claim 1 as set forth in Ground 2 in connection with the mapping of claim 8 in Ground 4.” *Id.* Patent Owner further argues, that “[t]o the extent the Petitioner intended to rely on the analysis of claims 1 and 23 set forth in Ground 1 for the limitations in the base claim for claims 8 and 30, respectively, in Ground 4, the confusion is further complicated by the fact that the analysis of claims 1 and 23 in Ground 1 relies in part on *Drummond*, which is absent from Ground 4.” *Id.* at 41–42 (Patent Owner’s emphasis). Patent Owner argues that to the extent Petitioner relies on its analysis of Wang alone from Ground 1a for claims 1 and 23, Wang fails to teach an imaging-based barcode reader that captures an image with information embedded in the image. *Id.* at 42 (citing Ex. 1004 ¶ 115).

Petitioner responds that “[a]s discussed above in Ground 1, Wang discloses using an image capture device (a barcode scanner or OCR reader) to capture an image of a UPC barcode having item index information and product information embedded therein.” Reply 15 (citing Pet. 30–43; Ex. 1004 ¶¶ 2, 72, 115).

We agree with Patent Owner that the Petition does not clearly tie its contentions as to dependent claim 8 and 30 to *one* of the multiple challenges that Petitioner presents to independent claims 1 and 23, from which claims 8 and 30 depend, respectively. *See* Pet. 54–55 (discussing both Ground 1 (which we break up as Grounds 1a and 1b) and Ground 2). Petitioner’s Ground 1 relies in part on Drummond, which is not part of Ground 4 and Petitioner’s Ground 2 does not address independent claim 23, from which claim 30 depends. Pet. 29–49. We therefore find the contentions presented under Ground 4 to be deficient.

Even if we were to interpret the Petition as relying solely on the analysis of Wang from Ground 1a for the purposes of Ground 4, for the reasons discussed above with respect to Ground 1a, we determine that Petitioner has not shown, by a preponderance of the evidence, that the subject matter of claims 8 and 30 would have been obvious to one of ordinary skill in the art over the combination of Wang and Denso.

I. Ground 5: Asserted Obviousness based on Wang and Raines

Petitioner contends that claim 13 is unpatentable as obvious over the combination of Wang and Raines. Pet. 57–59. Claim 13 depends from claim 1 and recites an “wherein the predetermined information includes information relating to a payment card account.” Ex. 1001, 17:1–6.

Petitioner relies on the same disclosures of Wang as discussed above as teaching claim limitation [1a] of independent claim 1. Pet. 59.

Accordingly, for the reasons discussed above with respect to Ground 1a, Petitioner has not established by a preponderance of the evidence, that the subject matter of dependent claim 13 would have been obvious to one of ordinary skill in the art over the combination of Wang and Raines.

J. Ground 6: Asserted Obviousness based on TAO, PTM, and Wang

Petitioner asserts that claims 1, 4, 5, 7, 23, 26, 27, 29, and 43 are unpatentable based on TAO, PTM, and Wang. Pet. 59–70.

1. Take an Order (TAO)

TAO is a product advertisement, titled “Take an Order,” for point-of sale software for the Palm computing devices from Stevens Creek Software. Ex. 1005, 1. The point-of-sale includes products at a trade show, orders from customers in their home or office, and bids in a field. *Id.* TAO provides issuance of a receipt for delivered products from any Palm computing devices that can scan barcodes. *Id.* For credit card sales, a user gets a popup form to input information such as a customer’s name and a credit card number. *Id.* Information on existing customers can be accessed from a “Sold To” button. *Id.* at 2. TAO uses its PalmPrint software to print receipts on printers. *Id.* A HotSync button allows upload of data to a desktop. *Id.* at 3. TAO’s Palm operating system can be used on PalmOne devices such as the Treo, Zire, and Tungsten lines of devices. *Id.*

2. *Palm Treo Manual (PTM)*

PTM is a user manual titled “using your Treo.” Ex. 1006, 1.¹³ PTM provides setup information and instructions to use a PalmOne device, particularly, the Treo phone. *Id.* at 1–3. The Treo phone is “an advanced mobile phone” that has a digital camera, email capability with SMS and MMS, and can browse on the web. *Id.* at 3. PTM discloses that contacts and other personal information can be synchronized between the Treo phone and desktop computer. *Id.* at 16. A password is required to see data on the Treo phone. *Id.* at 61–63. The Treo phone uses a Texas Instruments OMAP 1510 (ARM) processor. *Id.* at 81.

3. *Claims 1, 4, 5, 7, 23, 26, 27, 29, and 43*

Petitioner contends that the combination of TAO, PTM, and Wang teaches each of the limitations of that claims 1, 4, 5, 7, 23, 26, 27, 29, and 43. Pet. 64–70. Petitioner contends that TAO teaches the “image capture device” and “embedded information” of limitations 1[a], 23[a] and 43[b]. *Id.* at 65, 68, 70.

Patent Owner responds that “the barcode readers disclosed in TAO were SPT units from Symbol Technologies, which are *barcode laser scanners*.” PO Resp. 44 (citing Ex. 2009, 109; 2010, 108). Patent Owner argues that TAO therefore fails to disclose an *imaging-based* barcode reader. Ex. 2023 ¶ 102.

In its Reply, Petitioner contends that “a webpage operated by Steven’s Creek Software, instructs the reader to click a hyperlink to view the ‘variety of options for barcode scanning using PalmOS handhelds,” and clicking that

¹³ We refer to the added pdf page numbers at the bottom right corner of Exhibit 1006.

hyperlink “takes the viewer to an associated Steven’s Creek Software webpage describing various barcode scanners, including the Socket SDIO scanner.” Reply 17–18 (citing Ex. 1005, 3; Ex. 1010, 3–6; Ex. 1002 ¶ 59). According to Petitioner, “[t]he Socket SDIO scanner includes a camera and is an imaging-based barcode scanner rather than a laser-based barcode scanner.” *Id.* at 18 (citing Ex. 1010, 6; Ex. 1002 ¶ 59; Pet. 65).

Patent Owner responds that the Petition relied solely on Exhibit 1005 in its contentions as to this ground and Petitioner’s reliance on Exhibit 1010 in its Reply “represent[s] an impermissible effort to alter the scope of the instituted ground and must therefore be rejected.” Sur-reply 16–23. Patent Owner further argues the Petition never mentions the cited pages of Exhibit 1010 and there is no indication in pdf document submitted as Exhibit 1005 of a hyperlink to Exhibit 1010. *Id.* at 23–24. Patent Owner also argues that these exhibits were submitted as part of different declarations and there is no evidence that clicking a hyperlink in TAO would have brought a user to the page shown in Exhibit 1010. *Id.* at 24 (citing Exs. 1005, 1010, 1034). Patent Owner further contends that given the difference between the archival dates of the two exhibits and material differences between their content, Petitioner’s argument that webpages shown in Exhibit 1010 were accessible via a hyperlink in TAO must be rejected. *Id.* at 24–26.

As discussed above (Section III.C.1), we are persuaded by Patent Owner’s arguments that the claimed “image capture device” refers to an imaging-based barcode reader and not a laser-based barcode scanner. We agree with Patent Owner that the only barcode readers disclosed in TAO are laser-based scanners. TAO discloses “Symbol SPT 17xx or SPT 18xx” as “barcode scanning SPT units.” Ex. 1005, 1. Patent Owner persuasively

shows that these units are laser scanners, not imaging-based devices and therefore do not teach the claimed “image capture device.” *See* Ex. 2009, 109; Ex. 2010, 109; Ex. 2029 ¶ 102.

We also agree with Patent Owner that Petitioner’s contentions based on webpages shown in Exhibit 1010 are improper arguments presented for the first time in the Reply, and are forfeited. “A reply may only respond to arguments raised in the corresponding opposition or patent owner response.” 37 C.F.R. § 42.23(b); *see also* 35 U.S.C. § 312(a)(3) (requiring that “the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim”).

Here, the Petition does not cite to Exhibit 1010 in relation to the “image capture device” limitation. *See* Pet. 65, 68, 70. Instead, the Petition cites to pages 2 and 3 of TAO to argue that TAO discloses “*barcode-scanning capability. . . , a PalmOS handheld equipped with a barcode scanner.*” *Id.* at 65. Although we agree with Petitioner that TAO goes on to say that “[t]here are a variety of options for barcode scanning using PalmOS handhelds; you can read all about there here,” the Petition does not rely on that disclosure, and more importantly, that is the extent of TAO’s disclosure. Ex. 1005 at 3. Petitioner’s attempt to rely on an entirely different reference as disclosing other barcode scanning options, presented for the first time in its Reply, deprives Patent Owner the opportunity to present rebuttal evidence. We therefore find Petitioner’s Reply contentions to be improper. *See Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367 (Fed. Cir. 2015) (affirming Board’s refusal to allow party’s “reliance, in its Reply submissions, on previously unidentified portions of a prior-art reference to make a meaningfully distinct contention”); *Henny Penny Corp. v. Frymaster*

LLC, 938 F.3d 1324, 1330–31 (Fed. Cir. 2019) (affirming Board’s refusal to permit new Reply argument, which argued for a modification, when petition argued for replacement, in a two-reference obviousness challenge).

We also agree with Patent Owner’s evidentiary objections to Petitioner’s reliance on Exhibit 1010. As Patent Owner points out, these are webpages that were archived at different times and were submitted by Petitioner with different declarations. There is no evidence that clicking on the link in TAO would have taken a user to the webpage shown in Exhibit 1010. Petitioner’s declarant Nathaniel Frank-White merely testifies that the webpage shown in Exhibit 1010 is a true and accurate copy of browser screen shots of the Internet Archive’s records, and not to any relationship between that webpage and the one in TAO.¹⁴ *See* Ex. 1010, 1.

Petitioner points us to paragraph 59 of Mr. Purves’s declaration as supporting that Petitioner previously relied on the disclosure of the Socket SDIO scanner as teaching an “image capture device.” Reply 17 (citing Pet. 65; Ex. 1002 ¶ 59). As a threshold matter, that argument fails because under our rules, a contention not advanced in the briefing but referenced only through citation to an expert report comprises an improper incorporation by reference. *See* 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”). Moreover, Mr. Purves’s discussion of Socket SDIO scanner

¹⁴ Petitioner’s reliance of the Federal Circuit’s decision in *Husky Injection Molding Systems* is misplaced because TAO does not identify the webpages shown in Exhibit 1010 with “detailed particularity” or “clearly indicate where the material is found in various documents.” *Husky Injection Molding Sys. Ltd. v. Athena Automation Ltd.*, 838 F.3d 1236, 1248 (Fed. Cir. 2016); Reply 19–20.

in paragraph 59 relates to his testimony regarding the different types of scanning devices in context of claim construction. Ex. 1002 ¶ 59 (citing Ex. 1010, 5–6). This testimony in no way relates to Petitioner’s contention that TAO teaches an imaging-based scanner or ties the Socket SDIO scanner to the disclosures in TAO.

We have reviewed Petitioner’s argument and evidence directed to independent claims 1, 23, and 43, *see* Pet. 59–70, and we determine that Petitioner has not shown, by a preponderance of the evidence, that the subject matter of claims 1, 4, 5, 7, 23, 26, 27, 29, and 43 would have been obvious to one of ordinary skill in the art over the combined teachings of TAO, PTM, and Wang.

IV. PATENT OWNER’S ARGUMENTS AS TO INSTITUTION

Patent Owner argues that our decision to institute trial in this case should be vacated because we exceeded our authority under the statute by basing our institution decision on evidence not set forth in the petition. PO Resp. 45–58. Patent Owner contends that our decision allowing Petitioner to submit a preliminary reply as well as supporting evidence (*see* Ex. 3002), which we relied on in our institution decision, “cannot be reconciled with the statutory requirement that an institution decision be based only on ‘*the information presented in the petition.*’” *Id.* at 45 (citing 35 U.S.C. § 314(a)). Patent Owner also complains that it was not provided a fair opportunity to be heard regarding its objections to Petitioner’s request.

We decline to revisit our institution decision at this late stage of the proceeding. As a threshold matter, Patent Owner has forfeited its objections to our decision authorizing a preliminary reply. If Patent Owner had wished to seek rehearing of that interlocutory ruling granting Petitioner’s request to

file a preliminary reply, it could have done so under Rule 42.71(b) within fourteen days of our decision. But it did not.¹⁵ Nor did Patent Owner seek to arrange a conference with us to raise its objections.¹⁶ *See* CTPG 9–10 (laying out procedures to request a conference with the Board).

Moreover, Patent Owner ignores that our rules allow for a preliminary reply in cases where good cause is shown. *See* 37 C.F.R. § 42.108(c). The Trial Practice Guide explains that “[t]he decision concerning whether the petitioner will be afforded a reply and the appropriate scope of such a reply rest with the panel deciding the proceeding to take into account the specific facts of the particular case.” *See* CTPG 52.

Patent Owner also misconstrues the statutory requirements of 35 U.S.C. § 314(a). Under the APA, a petitioner must be afforded a reasonable opportunity to present argument and evidence in response to a newly proposed construction from a patent owner. *See, e.g., Apple Inc. v. Smart Mobile Techs. LLC*, No. 2024-1419, 2026 WL 91021, at *2 (Fed. Cir. Jan. 13, 2026) (citing *Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374 (Fed. Cir. 2023)). To the extent Patent Owner has not already forfeited its objections

¹⁵ Patent Owner never request relief in any form following our decision. *See* Ex. 3002. Moreover, Patent Owner was allowed a preliminary sur-reply in response to Petitioner’s preliminary reply, which Patent Owner did submit. *See* Paper 9. Patent Owner could also have raised its objections there, but failed to do so. *See id.* Further, our “admonishment” that Patent Owner complains about (PO Resp. 55) merely restates routine Board practice and guidance from the Trial Practice Guide regarding the process to seek relief from the Board. *See* Consolidated Trial Practice Guide 9–10 (Nov. 21, 2019), available at <https://www.uspto.gov/TrialPracticeGuideConsolidated> (“CTPG”).

¹⁶ Patent Owner did however raise these objections in its request for Director Review of the institution decision. Paper 13. The Director denied Patent Owner’s request. Paper 15.

to our decision authorizing a preliminary reply, we find Patent Owner's arguments meritless. Accordingly, Patent Owner's request to vacate our decision to institute trial is denied.

V. PETITIONER'S MOTION TO EXCLUDE (PAPER 26)

Petitioner moves to exclude expert testimony in paragraphs 44–63, 66–67, 69–76, 77–79, 88, 90, and 101–102 of the declaration of Dr. Berisso (Exhibit 2029) as well as Exhibits 2024–2026 under Federal Rule of Evidence 403. Paper 26 (“Motion”), 1–2 (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996); *Knowles Elecs. LLC v. Cirrus Logic, Inc.*, 883 F.3d 1358, 1361–62 (Fed. Cir. 2018)). Petitioner argues that Patent Owner's use of extrinsic evidence in support of its claim construction arguments “is improper as the intrinsic evidence alone provides the meaning of the claim terms, and [Patent Owner's] extrinsic evidence contradicts the intrinsic evidence.” *Id.* at 1. Petitioner argues that Patent Owner's evidence relating to the claim terms “image capture device” and “embedded information” is unnecessary and conflicts with the intrinsic evidence. *Id.* at 5–10. Petitioner argues that this evidence “should be excluded as lacking probative value, confusing the issues, and misleading to the Board under FRE 403.” *Id.*; *see also* Paper 29 (“Mot. Reply”), 1–5.

Patent Owner responds that these exhibits are all highly probative evidence of how a person of ordinary skill in the art would have understood the disputed claim terms. Paper 27 (“Opp.”) 2–8. Patent Owner disputes Petitioner's contention that the evidence contradicts the Specification. *Id.* at 8–13

Petitioner, as the “moving party,” “has the burden of proof to establish that it is entitled to the requested relief.” 37 C.F.R. § 42.20.

We are not persuaded by Petitioner’s argument that Exhibits 2024–2026 and portions of Exhibit 2029 should be excluded under Federal Rule of Evidence 403. Rule 403 states that “[t]he court *may* exclude relevant evidence if its probative value is *substantially* outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence.” (emphasis added). We are not persuaded that the challenged evidence presents the danger of confusing the issues or misleading the Board. *See Corning Inc. v. DSM IP Assets B.V.*, IPR2013-00053, Paper 66 at 19 (PTAB May 1, 2014) (“[T]he Board, sitting as a non-jury tribunal, is well-positioned to determine and assign appropriate weight to the evidence presented in this trial.”); *see also E.E.O.C. v. Farmer Bros. Co.*, 31 F.3d 891, 898 (9th Cir. 1994) (explaining in a non-jury setting, the risk that a decision by the trier of fact will be unfairly affected by the admission of improper evidence is far less than in a jury trial). Here, where the Board is acting as factfinder, the risk of confusion is diminished. Further, as discussed above, extrinsic evidence, when available and considered in context of the intrinsic evidence, may be useful when construing claim terms. *See Phillips*, 415 F.3d at 1317–19; *see also Actelion Pharm. LTD v. Mylan Pharm. Inc.*, 85 F.4th 1167, 1174 (Fed. Cir. 2023) (finding that it proper to consider extrinsic evidence that was relevant to how a person of ordinary skill would understand the claim language).

We have reviewed Exhibits 2024–2026 and agree with Patent Owner that these provide probative evidence as to how a person of ordinary skill in the art would have understood claim term “image capture device.” This evidence shows that persons of ordinary skill in the art considered laser scanning barcode readers to be different than imaging-based barcode

readers—a distinction that is also supported by the evidence cited by Mr. Purves. *See* Ex. 1002 ¶ 59 (citing Ex. 1010, 5–6).

Likewise, paragraphs 44–63, 66–67, 69–76, 77–79, 88, 90, and 101–102 of Dr. Berisso’s declaration are probative of how a person of ordinary skill in the art would have understood the meaning of the disputed claim terms. As discussed above (Section III.C), we do find Dr. Berisso’s testimony helpful in resolving the scope of disputed claim terms.¹⁷ We therefore conclude that Dr. Berisso’s testimony is admissible and relevant to the issues in this proceeding and that Petitioner’s objections are properly directed to the weight to give to his testimony, not to its admissibility.

We also find no unfair prejudice to Petitioner given that Petitioner had an opportunity to submit argument and evidence in Petitioner’s Reply in response to Patent Owner’s exhibits and Dr. Berisso’s testimony. Petitioner also had an opportunity to cross-examine Dr. Berisso, which it did. *See* Ex. 1048.

For these reasons, we *deny* Petitioner’s motion to exclude Exhibits 2024–2026 and paragraphs 44–63, 66–67, 69–76, 77–79, 88, 90, and 101–102 of Exhibit 2029 (Paper 26).

VI. CONCLUSION

For the reasons discussed above, Petitioner has not demonstrated, by a preponderance of the evidence, that claims 1, 2, 4, 5, 7, 8, 12, 13, 17, 19–21,

¹⁷ Petitioner does not challenge Dr. Berisso’s qualifications or his industry experience. We note that Dr. Berisso has extensive experience with Automatic Identification and Data Capture systems, including various barcode scanning systems. *See* generally Ex. 2029 ¶¶ 4–24.

23, 24, 26, 27, 29, 30, 34, 39–41, and 43 are unpatentable. Our conclusions regarding the challenged claims are summarized below:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, 43	102(b)	Wang		1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, 43
1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, 43	103	Wang, Drummond		1, 4, 5, 7, 12, 17, 23, 26, 27, 29, 34, 43
1, 2, 4, 7, 12, 13, 17	102(b)	Wang		1, 2, 4, 7, 12, 13, 17
19–21, 39–41	103	Wang, Drummond		19–21, 39–41
8, 30	103	Wang, Denso		8, 30
13	103	Wang, Raines		13
1, 4, 5, 7, 23, 26, 27, 29, 43	103	TAO, PTM, Wang		1, 4, 5, 7, 23, 26, 27, 29, 43

VII. ORDER

For the reasons given, it is:

ORDERED that Petitioner has not established by a preponderance of evidence that claims 1, 2, 4, 5, 7, 8, 12, 13, 17, 19–21, 23, 24, 26, 27, 29, 30, 34, 39–41, and 43 of U.S. Patent No. 7,314,167 B1 are unpatentable;

FURTHER ORDERED that Petitioner’s motion to exclude (Paper 26) is *denied*; and

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

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Patent 7,314,167 B1

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