

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KIOSOFT TECHNOLOGIES, LLC and TECHTREX, INC.,
Petitioner,

v.

PAYRANGE INC.,
Patent Owner.

PGR2022-00035
Patent 11,074,580 B2

Before KEN B. BARRETT, STACEY G. WHITE, and
GEORGE R. HOSKINS, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION
Denying Institution of Post-Grant Review
35 U.S.C. § 324

I. INTRODUCTION

A. *Background and Summary*

KioSoft Technologies, LLC and TechTrex, Inc. (collectively, “Petitioner”)¹ filed a Petition requesting post-grant review of U.S. Patent No. 11,074,580 B2 (“the ’580 patent,” Ex. 1001). Paper 2 (“Pet.”). The Petition challenges the patentability of claims 1–17 of the ’580 patent. PayRange Inc. (“Patent Owner”)² filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”).

A post-grant review may not be instituted “unless . . . the information presented in the petition . . . , if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.” 35 U.S.C. § 324(a) (2018). Having considered the arguments and evidence presented by Petitioner and Patent Owner, we determine that Petitioner has not demonstrated that, if unrebutted, it is more likely than not that at least one of the claims challenged in the patent is unpatentable. Accordingly, we do not institute a post-grant review of the challenged claims of the ’580 patent.

B. *Related Proceedings*

The parties do not identify any other proceeding specifically involving the ’580 patent. *See* Pet. 9–10; Paper 3, 2–3. Both parties identify, as matters related to the ’580 patent, *PayRange, Inc., v. KioSoft Technologies, LLC et al.*, No. 1:20-cv-20970-RS (S.D. Fla.) (involving U.S. Patent

¹ Petitioner identifies KioSoft Technologies, LLC and TechTrex, Inc. as real parties-in-interest. Pet. 9.

² Patent Owner identifies PayRange Inc. as the real party-in-interest. Paper 3, 2.

Nos. 9,659,296 and 9,134,994, which the parties identify as sharing common priority claims with the '580 patent), and *PayRange Inc. v. KioSoft Technologies, LLC et al.*, No. 1:20-cv-24342 (S.D. Fla.) (involving U.S. Patent Nos. 10,891,614, 10,891,608, and 10,719,833, which the parties identify as sharing common priority claims with the '580 patent). Pet. 9–10; Paper 3, 2–3. The parties also identify several Patent Trial and Appeal Board cases as related matters. Pet. 9–10; Paper 3, 2–3.

C. The '580 Patent

The '580 patent is titled “Device and Method for Providing External Access to Multi-Drop Bus Peripheral Devices” and issued on July 27, 2021. Ex. 1001, codes (45), (54). The '580 patent claims priority, through a chain of patent applications, to a provisional patent application and a design patent application, both filed on December 18, 2013. *Id.* at 1:5–20.³

The '580 patent pertains to “the field of electronic peripheral devices, and in particular, to a system for providing access to an electronic peripheral device over a non-persistent network connection.” *Id.* at 1:50–53. The Specification explains that “[m]aster/slave technology uses a model of dualistic communication where one device or process (the master) has control over one or more other devices (the slave(s)), sometimes referred to as peripheral devices.” *Id.* at 1:57–60. Some peripheral devices, such as a bill acceptor or card reader, are embedded in a machine and, according to the Specification, traditionally do not necessarily provide access to outside

³ Because the earliest possible effective filing date for the '580 patent is after March 16, 2013 (the effective date for the first inventor to file provisions of the America Invents Act) and the Petition was filed not later than 9 months after its issue date, the '580 patent is eligible for post-grant review. *See* 35 U.S.C. § 321(c).

devices. *Id.* at 1:61–2:10. Examples of the machine are a payment accepting unit, a vending machine, and a retail machine. *Id.* at 33:37–39.

According to the '580 patent:

Disclosed herein is a system for providing external access to electronic peripheral devices disposed in a machine. The system enables an external device to access functionality provided by an electronic peripheral device of a machine by providing wireless communications between a mobile application and the electronic peripheral device.

Id. at 2:14–20. In order to provide this access, 1) the peripheral device is communicatively decoupled from the machine controller—which normally functions as the master of the peripheral device—and 2) the peripheral device is communicatively coupled to a mobile application—which then functions as the master of the peripheral device. *Id.* at 2:20–29. This latter configuration continues until the mobile application no longer requires access to the functionality of the peripheral device. *Id.*

D. Illustrative Claim

Of the challenged claims of the '580 patent, claims 1, 7, and 13 are independent claims. Claim 1, reproduced below with Petitioner's bracketed annotations inserted, is illustrative.

1. [Preamble 1.0] An electronic device for retrofitting a machine to accommodate one or more electronic peripheral devices, the electronic device comprising:
 - [1.1] a slave interface configured to couple the electronic device to a machine controller via a multi-drop bus (MDB);
 - [1.2] a host interface configured to couple the electronic device to a first peripheral device of the one or more electronic peripheral devices, wherein the first

peripheral device is configured to communicate via MDB protocol and is decoupled from the MDB of the machine;

[1.3] a wireless transceiver;

[1.4] one or more processors; and

[1.5] non-transitory memory storing one or more programs to be executed by the one or more processors, the one or more programs comprising instructions for:

[(a)] registering the electronic device as a slave to the machine controller;

[(b)] registering the first peripheral device as a slave to the electronic device;

[(c)] receiving, at the slave interface of the electronic device, a first command from the machine controller, wherein the first command is directed to the first peripheral device; and

[(d)] in response to receiving the first command from the machine controller:

 sending an acknowledgement to the machine controller via the slave interface in a manner as if originated from the first peripheral device; and

 [(e)] relaying the first command to the first peripheral device via the host interface;

[(f)] receiving, from a mobile device via the wireless transceiver, a request to access signals generated by the first peripheral device;

[(g)] validating the request, wherein validation of the request indicates that the mobile device is authorized, by a remote server, to access the signals generated by the first peripheral device; and

[(h)] sending a first reset command to the first peripheral device via the host interface, wherein the first reset command includes a directive to update a signal destination address of the first peripheral device from a controller address of the machine controller to a device address of the electronic device.

Ex. 1001, 52:57–53:34.

E. Evidence

Petitioner relies on the following references:

Reference		Dates	Exhibit No.
Anderson	WO 2014/093857 A1	Filed Dec. 13, 2013; Published June 19, 2014	1005
The '508 Publication	US 2017/0193508 A1	Filed Jan. 13, 2017; Published July 6, 2017	1007
Kolls	US 8,596,529 B1	Filed May 22, 2002; Issued Dec. 3, 2013	1016

Petitioner also relies on the declaration of Mr. Gerald Smith (Ex. 1003) in support of its arguments.

F. Asserted Grounds of Unpatentability

Petitioner asserts that the challenged claims are unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–17	102(a)(1)	Anderson
1–17	103	Anderson, Kolls, the '508 Publication
1–17	101	Subject Matter Eligibility
1–17	112(b)	Indefiniteness

II. ANALYSIS

A. The Level of Ordinary Skill in the Art

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) (internal quotation marks and citation omitted).

Petitioner contends that a person of ordinary skill in the art “would have a Bachelor of Science in Electrical Engineering, Computer Science, or another degree related to electromechanical systems, as well as at least 3 years of academic or industry experience in electronic payment systems.” Pet. 25–26 (citing Ex. 1003 ¶ 22). Patent Owner, at this stage, does not disagree or propose a different definition of the person of ordinary skill in the art.

Petitioner’s definition is consistent with the level of ordinary skill reflected in the prior art references of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (recognizing that the prior art itself may reflect an appropriate level of skill in the art). For purposes of this decision, we apply Petitioner’s definition of the person of ordinary skill in the art.

B. Claim Construction

We apply the same claim construction standard used in district court actions under 35 U.S.C. § 282(b), namely that articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b) (2021). In applying that standard, claim terms generally are given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner states that, “[u]nless otherwise noted, Petitioners submit that the claim terms should be given their plain and ordinary meaning since the claim terminology appears to be the same as that used in the [Multi-Drop Bus] protocol.” Pet. 28. Patent Owner does not propose any constructions, asserting that “the Board need not reach any claim constructions in order to deny this petition.” Prelim. Resp. 12.

On this record and for purposes of this decision, we determine that no claim terms require express construction.

C. The Alleged Anticipation of Claims 1–17 by Anderson

Petitioner alleges that all of the challenged claims are anticipated by Anderson. *See* Pet. 28–44 (addressing claim 1). Patent Owner argues that Petitioner fails to demonstrate that Anderson discloses limitations 1.5(f), (g), and (h)—receiving a request from the mobile device for access to the peripheral device’s signals, validating the request, and sending a reset command to update the signal destination address from that of the machine controller to that of the electronic device. *See, e.g.*, Prelim. Resp. 2.

1. Principles of Law

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987); *see also Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008) (to anticipate a patent claim under 35 U.S.C. § 102, “a single prior art reference must expressly or inherently disclose each claim limitation”). Moreover, “[b]ecause the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim

within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). Whether a reference anticipates is assessed from the perspective of one of ordinary skill in the art. *See Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368–69 (Fed. Cir. 2003) (“‘[T]he dispositive question regarding anticipation [i]s whether *one skilled in the art* would reasonably understand or infer from the [prior art reference’s] teaching’ that every claim element was disclosed in that single reference.” (second and third alterations in original) (quoting *In re Baxter Travenol Labs.*, 952 F.2d 388, 390 (Fed. Cir. 1991))).

Additionally, under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates. *MEHL/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999) (citation omitted); *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349–50 (Fed. Cir. 2002).

2. *Anderson (Ex. 1005)*

Anderson pertains “to electronic transaction systems and, in particular, to a dynamic consumer-interactive vending platform.” Ex. 1005

¶ 2. Anderson explains:

Electronic transaction systems, such as vending machines, typically utilize . . . [a] Multi-Drop Bus (MDB) protocol[. . . .] MDB can provide an interface between the vending machine and different peripheral devices, such as coin acceptors, bill acceptors, credit-card acceptors, etc. Additionally, the [vending machine controller (VMC)] can recognize and enable the peripheral devices for operation, after which the device and the VMC can communicate. The communication enables components of the system to work in concert to

perform the functions of the vending machine, such as accepting payment, vending product, logging transactions, and transmitting transactional information to an external server.

Id. ¶ 3.

Anderson further explains that conventional vending machines were pre-configured to work with a specific set of peripherals, and prior attempts to expand vending machine functionality focused on the cost-prohibitive and undesirable replacement of the VMC. *Id.* ¶ 4. Anderson's system includes an intermediate controller (IC) and user interface, and "enables an inexpensive retrofit of existing vending machines that does not require replacement of the VMC." *Id.* ¶¶ 5, 15.

Anderson's Figure 2 is reproduced below.

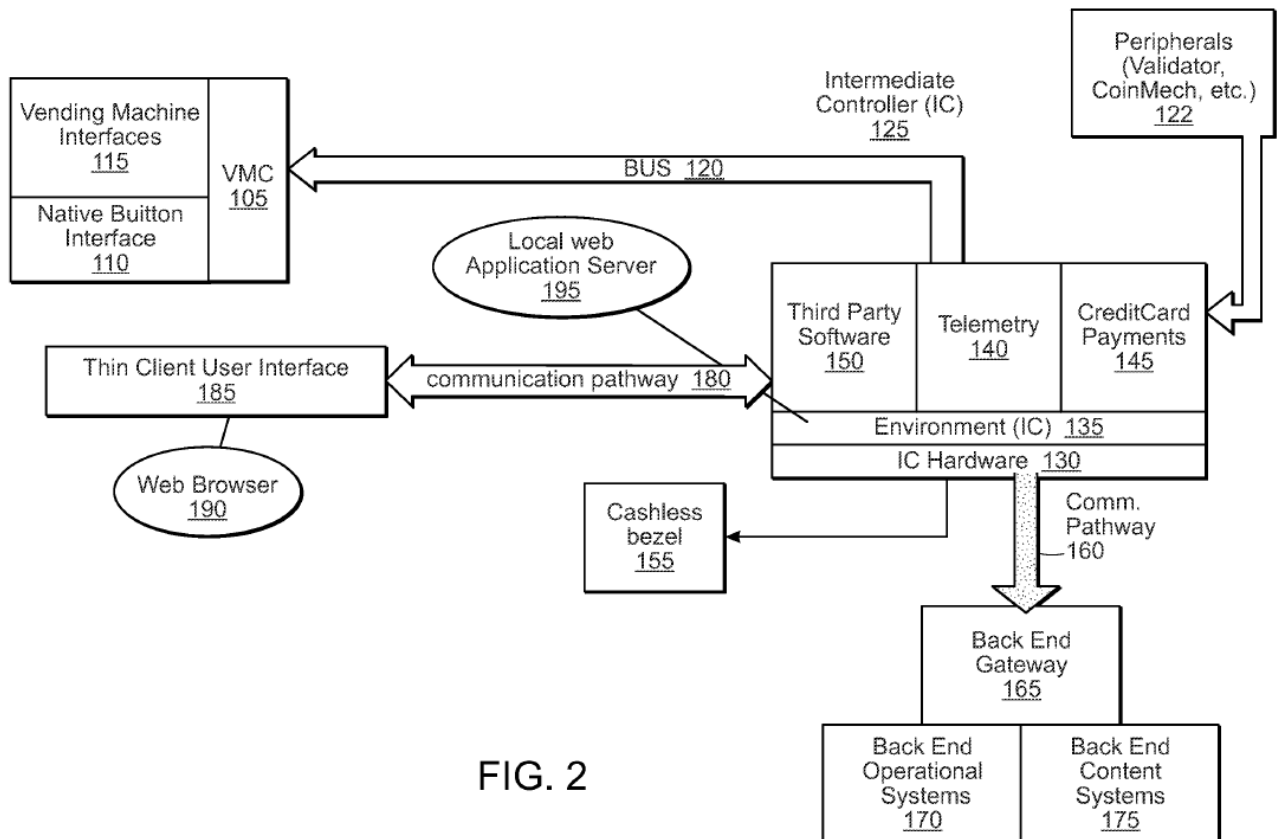


FIG. 2

Figure 2 is a system block diagram illustrating components of a point of sale machine, including an intermediate controller. *Id.* ¶ 19. Vending machine controller 105 is connected to intermediate controller 125 via bus 120, which “can include an MDB bus or other suitable communications pathway.” *Id.* ¶¶ 25–26. The VMC can be connected via bus 120 to optional peripherals 122 that enable vending machine functionality such as a bill validator and a coin validator. *Id.* ¶ 25. As shown in Figure 2, IC 125 is located between VMC 105 and peripherals 122. The IC may include an industry standard interface. *Id.* ¶ 26. In Figure 2, IC 125 is connected to thin client user interface 185 via communications pathway 180. *Id.* ¶ 26. “In one embodiment, the thin client user interface 185 includes a web browser 190 that operates as a client in a client-server relationship with a web server 195 running on the IC environment 135 of the IC 125,” and “[c]ommunication can occur between the thin client user interface 185 and the IC 125 through TCP/UDP protocol.” *Id.* IC 125 has telemetry module 140 that “allows the point of sale machine to communicate with a back end or remote server, such as gateway 165.” *Id.* ¶ 27.

“[Disclosed] systems can dynamically interact with a variety of peripheral devices and provide additional functionalities . . . [such as] providing advertising, loyalty rewards, discounts, coupons, multiple vend items, social media interaction, mobile device or mobile wallet interaction, etc.” *Id.* ¶ 24.

3. The Alleged Anticipation of Claim 1 by Anderson

For reasons discussed below, Petitioner has not shown that it is more likely than not that independent claim 1 is anticipated by Anderson.

Patent Owner argues that “Petitioners’ claim mapping to Anderson is ill-explained and illogical.” Prelim. Resp. 12. In particular, Patent Owner

argues, *inter alia*, that the Petition is lacking with regard to limitations 1.5(f) and 1.5(g). *See, e.g., id.* at 14.

The subject limitations recite:

[1.5(f)] receiving, from a mobile device via the wireless transceiver, a request to access signals generated by the first peripheral device;

[1.5(g)] validating the request, wherein validation of the request indicates that the mobile device is authorized, by a remote server, to access the signals generated by the first peripheral device.

Ex. 1001, 53:22–28. Patent Owner asserts that Petitioner fails to demonstrate that Anderson discloses the intermediate controller receiving from a “mobile device” a request to access peripheral device signals or, by extension, validating that request. Prelim. Resp. 14.

Petitioner fails to adequately articulate a theory for which we ultimately could make fact findings in Petitioner’s favor. For example, it is not clear what component(s) in Anderson is or are being mapped to the recited “mobile device” from which a request for access is to be received. *See* Pet. 36–39; *see id.* at 36 (Petitioner’s first sentence, under the “receiving” limitation heading, referring to requests from peripherals, backend gateway 165, thin client user interface 185, and a customer cell phone without labeling any of those as a “mobile device”). We understand Petitioner to assert that at least the customer cell phone mentioned in Anderson is a mobile device.⁴ *See, e.g., id.* at 37; *but see* Prelim. Resp. 13–14 (Patent Owner asserting that “the petition conflates what Anderson calls

⁴ To the extent that Petitioner contends that some other device in Anderson is a mobile device, Petitioner has not explained adequately how any such device is a “mobile device” within the meaning of the challenged claims.

the ‘user interface device’ or ‘thin client interface’ with a mobile device,” and then arguing that Petitioner is incorrect because the interface is not a mobile device). However, even with that understanding, Petitioner does not explain adequately a theory of how the customer cell phone interacts as recited in claim 1.

Patent Owner argues that Petitioner has failed to identify a disclosure in Anderson of a mobile device making, or the receipt from a mobile device of, a request to access peripheral device-generated signals. *See* Prelim. Resp. 17–24; *see, e.g., id.* at 17 (“Petitioners point to no evidence that any external device in Anderson ever requests access to the signals generated by the peripheral.”). We find this argument persuasive. Petitioner, in the section for “receiving” limitation 1.5(f), cites paragraph 44 of Anderson several times. *See* Pet. 36–39. That paragraph concludes with the statement:

The IC 125 may also include a modem (not shown) to display content on external devices such as cellular phones via cellular network or any other network know[n] in the art. Thus, in one implementation, a user may receive nutritional information or balance information on his cell phone.

Ex. 1005 ¶ 44. That is a disclosure of data flowing to the cell phone in the form of content to display, and it is ambiguous as to what component could be said to have requested that data flow. Limitation 1.5(f) recites data flow in the opposite direction, *from* the mobile device, and pertains to a specific message—“a request to access signals generated by the first peripheral device.” Ex. 1001, 53:22–24. Petitioner does not explain adequately how the disclosure in Anderson’s paragraph 44 could support a finding that there was received, *from the cell phone*, a request to access signals generated by a peripheral device. *See, e.g.,* Pet. 36–37 (quoting Anderson’s paragraph 44).

Similarly, Petitioner asserts that Anderson discloses the customer being able “to dynamically interact with the machine using his cell phone,” but Petitioner fails to identify the specific form of interaction recited in the claim. *Id.* at 38 (citing Ex. 1005 ¶ 7); *see also id.* at 36–37 (citing Ex. 1005 ¶ 24 (“Additional functionalities [provided by the system] include providing . . . mobile device or mobile wallet interaction.”)); *cf.* Prelim. Resp. 18–19 (Patent Owner arguing that Anderson does not refer to interacting with a cell phone in paragraph 7).

Petitioner also refers to Anderson’s IC receiving requests and routing signals, which is a non-controversial proposition in light of the IC’s role, but Petitioner does not identify the specific request and signals recited in the claim, namely a request from Anderson’s cell phone (or any “mobile device”) to access signals generated by a peripheral device. *See, e.g.,* Pet. 37 (“all requests and signals . . . are handled entirely through the IC 125”); *id.* at 38 (“The IC 125 is configured to receive requests for various types of information . . . and to display ‘the information on the user interface device.’”).

Limitation 1.5(g) requires validating the request of the prior limitation—a request from a mobile device for peripheral signal access—with the validation involving authorization from a remote server. Ex. 1001, 53:25–28. Patent Owner argues that Petitioner, having failed to show how Anderson discloses the recited request, also has failed to show that Anderson discloses validating that request and, further, that Petitioner has failed to show such a request is authorized by a remote server. Prelim. Resp. 24–25. We agree that the Petition is lacking in this regard.

Petitioner, for this limitation, begins with the contention that “the IC 125 must, implicitly, validate all requests from external devices that relate to electronic funds.” Pet. 40 (citing Ex. 1003 ¶ 113). Petitioner further contends that “[t]he IC 125 can validate requests received via the telemetry module 140, such as requests related to coupons, rewards club benefits, or other discounts, including any requests for information associated with any of the peripherals 122, 155.” *Id.* (citing Ex. 1005 ¶ 31; Ex. 1003 ¶ 113). Petitioner additionally contends that “[a]s described in FIG. 5, the entire user experience can be handled by an Android-based cell phone, including the entire product selection and check out process, which requires interaction with the electronic payment peripherals.” *Id.* at 40–41. Petitioner again cites Anderson’s paragraph 44 for the proposition that content is displayed on a cell phone, arguing that there is a validation via the server of the mobile device’s access to peripheral signals (but again leaving ambiguous what device made the access request). *Id.* at 41. Even if all of these contentions are correct, Petitioner, at most, has shown that Anderson discloses an act of validating, general requests for information from a cell phone, and signals from a peripheral transmitted to a cell phone for display. However, Petitioner still has failed to explain adequately how Anderson discloses validating the specifically recited request from a mobile device.

After considering all of Petitioner’s contentions, the cited portions of Anderson, and the cited paragraphs of Mr. Smith’s declaration, we determine that Petitioner has not demonstrated adequately to merit institution that Anderson discloses receiving the particular request and

validation thereof as recited in limitations 1.5(f) and (g).⁵ Accordingly, Petitioner has not shown that it is more likely than not that independent claim 1 is anticipated by Anderson.

4. The Alleged Anticipation of Claims 2–17 by Anderson

Claims 7 and 13 are independent claims respectively reciting a method and a computer readable storage medium. Ex. 1001, 54:23–67, 55:50–56:28. The parties agree that independent claims 7 and 13 are, for purposes of this decision, substantively the same as independent claim 1. *See* Pet. 82 (“[T]he ’580 Patent contains three independent claims, 1, 7, and 13, all of which recite the same method for retrofitting a machine.”); Prelim. Resp. 12 (“Independent claims 7 and 13 both recite the same, particularly-configured electronic device performing the same program operations as claim 1, but they are respectively directed to a method of retrofitting the machine and a non-transitory computer readable storage medium storing the program.”). The remaining claims subject to this ground are dependent claims. Petitioner’s arguments against these claims refer to and rely on the same contentions discussed above regarding the anticipation of claim 1 by Anderson. *See* Pet. 45–55. Thus, for the same reasons discussed above, Petitioner has not shown that it is more likely than not that claims 2–17 are anticipated by Anderson.

⁵ In light of our determination, we need not and do not reach the disputed issues of whether the ’580 patent is entitled to the benefit of an earlier filing date or whether Anderson is prior art to the ’580 patent. *See* Pet. 25, 28; Prelim. Resp. 31–35.

D. The Alleged Obviousness of Claims 1–17 over Anderson, Kolls, and the '508 Publication

Petitioner alleges that claims 1–17 would have been obvious over Anderson, Kolls, and the '508 Publication. *See* Pet. 55–70 (addressing claim 1).

1. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter 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. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). 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 skill in the art; and (4) any objective evidence of obviousness or non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

2. Kolls (Ex. 1016)

Kolls pertains to retrofitting vending machines and, according to Kolls, addresses “a long felt need [that] exists for a solution related to a cost effective system and method for remotely auditing vending equipment, and for providing additional payment options at the point of sale for goods and services vended from vending equipment.” Ex. 1016, 3:63–67. Kolls discloses a payment module (system 500) and vending machine interface unit (“VIU”) 100 that interfaces to different kinds of vending machines by way of, for example, the vending industry’s multi-drop bus (“MDB”) interface. *Id.* at 4:8, 8:1–18.

3. *The '508 Publication (Ex. 1007)*

The '508 Publication is the printed publication of the patent application of which the challenged patent's application is a continuation-in-part. *See* Ex. 1001, code (63); Ex. 1007, code (21).⁶ Thus, the '508 Publication has similar, but not identical, disclosures as in the '580 patent.

4. *Discussion*

For reasons discussed below, Petitioner has not demonstrated that it is more likely than not that at least one challenged claim is unpatentable as obvious over Anderson, Kolls, and the '508 Publication.

Petitioner asserts that Anderson is silent about how the IC handles peripheral devices configured for older versions of the MDB protocol, and contends that Kolls teaches a methodology for such and that modifying Anderson per Kolls's teachings would have been obvious. Pet. 56–57. Petitioner also contends that, “[a]lternatively, a POSITA would have found it equally obvious to modify Kolls in view of Anderson and implement the Android or Windows CE platform-based application, including to handle the product selection and check out process by customers, as taught by Anderson.” *Id.* at 57. Petitioner asserts that the '508 Publication teaches that a “common mobile device can be used to validate a request directed to a remote server” and that the mobile device can serve as a wireless bridge from the vending machine to a server, and contends that it would have been obvious to use those teachings in the proposed combination. *Id.* at 58–59.

⁶ Because of our determination regarding this obviousness ground, we need not and do not reach the issue of whether the '508 Publication is prior art to the '580 patent.

For limitation 1.5(f)—which, again, recites “receiving, from a mobile device . . . , a request to access signals generated by the first peripheral device”—Petitioner asserts that Kolls teaches such things as personal data assistants (PDAs) and cell phones, a remote user interface (which Petitioner contends would include a PDA or cell phone), peripherals, signals, and requests. *See, e.g.*, Pet. 66 (listing devices). While Petitioner notes that Kolls’s system allows communication with such devices, Petitioner does not make clear what communication it is relying upon to teach the recited “request to access signals.” *See id.* at 65–68 (citing Ex. 1003 ¶¶ 292–294). Further, Petitioner does not clearly, adequately, or persuasively explain how Kolls teaches all the various pieces together such that Kolls teaches receiving, from a mobile device, a request for peripheral signal access. *See id.* Petitioner does not refer to the ’508 Publication in the section addressing limitation 1.5(f). *See id.*

For limitation 1.5(g)—validating the mobile device’s request for peripheral signal access—Petitioner, in a manner similar to that for the Anderson anticipation ground, asserts that “[Kolls’] system 500 explicitly validates requests from external devices that relate to electronic funds.” Pet. 69 (citing Ex. 1003 ¶ 309). However, Petitioner does not adequately identify a disclosure of the specifically recited request from a mobile device. *See id.* at 68–69.

Petitioner also contends: “The ’508 publication teaches examples of validating a request received from the mobile device 150 in, for example, FIGS. 7 and 8B, where the validation of the request indicates that the mobile device is authorized by a remote server to access the signals generated by a first peripheral device.” *Id.* at 69 (citing Ex. 1007 ¶ 170, Figs. 7, 8A–G).

In reply, Patent Owner argues that:

Petitioner[] do[es] not explain how the cited figures and paragraph allegedly disclose validating a request by a mobile device to access signals generated by a first peripheral device, wherein validation indicates the mobile device is authorized by a remote server to access the signals. The cited paragraph does not refer to a peripheral, much less discuss a request by a mobile device to access a peripheral's signals. The petition points to nothing depicting a peripheral in the cited figures. The petition cites to no testimony explaining its proposed mapping.

Prelim. Resp. 41–42. Patent Owner also argues that Petitioner contradicts its contention, made in the context of the indefiniteness ground, that the '508 Publication does not disclose the validating limitation. *Id.* at 42 (citing Pet. 96). Specifically, Petitioner argues in the indefiniteness section:

At best, the '508 publication, of which the '580 patent is a continuation-in-part, describes an authorization for funds feature, but there is no disclosure related to validating the request that is recited in the limitation, nor that validation of the request indicates that the mobile device is authorized, by a remote server, to access the signals generated by the first peripheral device.

Pet. 96.

We agree with Patent Owner that Petitioner does not explain adequately how the cited figures or paragraph 170 of the '508 Publication disclose validation of the specific recited request of limitation 1.5(f). Further, Petitioner does not appear to argue the indefiniteness ground in the alternative (*see* Pet. 95–98) and its assertion that the '508 Publication does not disclose the recited validating limitation undermines its obviousness ground.

We determine that Petitioner has not demonstrated that it is more likely than not that claim 1 would have been obvious over Anderson, Kolls, and the '508 Publication. Petitioner relies on the same arguments for the other challenged independent claims. Pet. 70. The remaining challenged claims are dependent claims and, therefore, contain the same requirements for receiving a request from a mobile device for peripheral signal access and validating that request. Accordingly, Petitioner has not demonstrated that it is more likely than not that at least one challenged claim is unpatentable as obvious over Anderson, Kolls, and the '508 Publication.

E. Section 101 Subject Matter Eligibility – Claims 1–17

Petitioner alleges that claims 1–17 are directed to an abstract idea and, for that reason, are patent-ineligible. *See* Pet. 77–95. Patent Owner argues that “[w]ith the petition’s §101 analysis so far afield from the actual claim language, the petition fails to demonstrate that the claims are directed to an abstract idea.” Prelim. Resp. 52. For the reasons that follow, we determine that Petitioner has failed to meet its burden regarding the patentable subject matter challenge to justify institution.

1. Principles of Law

a. Section 101

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, the U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g., Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Court’s two-part framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Court held that “a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an

attempt to patent a mathematical formula.”). Having said that, the Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citation omitted) (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221. “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

b. USPTO Section 101 Guidance

In January 2019, the U.S. Patent and Trademark Office (USPTO) published revised guidance on the application of § 101. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Revised Guidance”).⁷ “All USPTO personnel are, as a matter of

⁷ In response to received public comments, the Office issued further guidance on October 17, 2019, clarifying the 2019 Revised Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the “October

internal agency management, expected to follow the guidance.” *Id.* at 51;
see also October 2019 Update at 1.

Under the 2019 Revised Guidance and the October 2019 Update, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) (“Step 2A, Prong One”); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018)) (“Step 2A, Prong Two”).^[8]

2019 Revised Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look, under Step 2B, to whether the claim:

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional activity” in the field (*see* MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry,

2019 Update”) (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).

⁸ This evaluation is performed by (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception, and (b) evaluating those additional elements individually and in combination to determine whether the claim as a whole integrates the exception into a practical application. *See* 2019 Revised Guidance - Section III(A)(2), 84 Fed. Reg. 54–55.

specified at a high level of generality, to the judicial exception.

2019 Revised Guidance, 84 Fed. Reg. at 52–56.

2. Discussion

Petitioner contends that the challenged claims are directed to an abstract idea. *See, e.g.*, Pet. 82 (“[E]ach of the challenged claims do nothing more than apply an abstract idea with a general-purpose computer.”). The fundamental dispute in this case is whether Petitioner has identified adequately such an abstract idea.

The first part of the *Alice* framework involves a determination as to whether a claim is “directed to” an abstract idea. *Alice*, 573 U.S. at 219. Under the Agency’s Guidance, Step 2A Prong One involves an evaluation as to whether a claim recites a judicial exception, *e.g.*, an abstract idea, including certain methods of organizing human activity such as a fundamental economic practice. 2019 Revised Guidance, 84 Fed. Reg. at 52–55.

Petitioner contends that the claims recite a fundamental economic practice of a sales activity and a financial transaction. Pet. 22 (“The claims are designed to monopolize the judicial exception of organizing human activity—a sales activity—between a customer and a merchant.”), 80 (“The challenged claims are directed to the use of conventional general-purpose computer technology to conduct a financial transaction.”); *see also id.* at 82–89 (section addressing Step 2A Prong One under the heading: “The challenged claims recite the judicial exception of a fundamental economic practice”). According to Petitioner, “[t]he subject matter of the challenged claims is effectively no different than paying a bill by mail when a new neighborhood post office has opened and all mail to and from neighborhood

addresses is directed through that new office.” *Id.* at 80. The Petition also characterizes claim 1 as only describing “the capability to redirect payment information by a payment peripheral (*e.g.*, a bill reader) from the vending machine on which it is installed to a near-by mobile device.” *Id.* at 86. According to Petitioner, “[t]his rerouting of information in general, and payment information in particular, is no different than a post-office worker processing an address change request.” *Id.* Thus, Petitioner’s post office analogy shifts from changing post offices to changing the home address of the destination. Regardless, Petitioner’s post office analogies both involve a financial transaction.

As mentioned, Patent Owner argues that “the petition fails to demonstrate that the claims are directed to an abstract idea.” Prelim. Resp. 52. We agree. Petitioner fails to identify any limitation that recites a financial transaction. Pet. 82–89. Although Petitioner argues that “[a]ll of the challenged claims are directed to sending and receiving information . . . to provide ‘a payment processing system or, more specifically, a mobile-device-to-machine payment processing system for processing transactions,’” Petitioner points to the Specification, not the claims. *Id.* at 83 (citing Ex. 1001, 4:59–61, 7:12–15); *see Alice*, 573 U.S. at 218 (“We must first determine whether the claims at issue are directed to a patent-ineligible concept.”). Petitioner relies on the Specification to implicitly urge a claim construction limiting the recited “machine” of claim 1 to a payment accepting unit, vending machine, or retail machine, and the recited “electronic device” as “nothing more than a general-purpose computer that performs ‘as a virtual payment peripheral of the machine.’” *Id.* at 84; *see also, e.g., id.* (arguing, without citation to any specific portion of claim 1,

that “[t]he claim requires that the ‘machine’ accept payment through a ‘machine controller via a multi-drop bus (MDB).’”). Petitioner does not explain why the claims should be limited to the disclosure in the Specification, and we decline to construe claim 1 as Petitioner urges. Petitioner also has not demonstrated adequately that the applicability of the claimed subject matter to a vending machine environment equates to that claimed subject matter being directed to an abstract idea. *Cf. Unwired Planet, LLC v. Google Inc.*, 841 F.3d 1376, 1382 (Fed. Cir. 2016) (“[I]t cannot be the case that a patent covering a method and corresponding apparatuses becomes a [covered business method] patent because its practice could involve a potential sale of a good or service. All patents, at some level, relate to potential sale of a good or service.”).

In addressing the specific limitations of claim 1, Petitioner asserts that each recites conventional technical elements. *Id.* at 83–84. However, even if true, it does not follow necessarily that a claim consisting entirely of conventional technical elements is directed to an abstract idea. *See Alice*, 573 U.S. at 221 (determining whether a claim is directed to an abstract idea precedes the determination as to whether the claim, for example, merely requires generic computer implementation); 2019 Revised Guidance, 84 Fed. Reg. at 54–56 (if the claim does not recite a judicial exception, the analysis does not continue to the determinations regarding, for example, well-understood, routine, conventional activities).

We also agree with Patent Owner’s argument that the claims “have nothing to do with automating mail forwarding.” Prelim. Resp. 52. Petitioner’s analogies are too attenuated and strained to support institution of a post-grant review based on the Section 101 challenge. Further, we are not

persuaded that, even if the postal analogies are appropriate, redirecting mail to a new post office or processing a change-of-address request is properly characterized as a fundamental economic practice.

To the extent Petitioner shifts theories away from “a fundamental economic practice,” we do not find the arguments persuasive, in part, because the arguments fail to address the claimed subject matter as an ordered combination. *See McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016) (“Whether at step one or step two of the *Alice* test, in determining the patentability of a method, a court must look to the claims as an ordered combination, without ignoring the requirements of the individual steps.”). For example, we do not find persuasive Petitioner’s contention that the use of a wireless transmitter (limitations 1.3 and 1.5(f)) renders the claims unpatentable subject matter. *See* Pet. 87–88 (Petitioner arguing that the claimed subject matter is analogous to cases involving wireless communications). Similarly, we do not find persuasive Petitioner’s argument that, “[i]n the end, the invention of the challenged claims is nothing more than routing information between different locations, which falls within the enumerated ‘[c]ertain methods of organizing human activity’ grouping of abstract ideas set forth in the Revised Guidance.” *Id.* at 89.

Petitioner has not demonstrated that it is more likely than not that at least one challenged claim is unpatentable under Section 101.

F. The Alleged Indefiniteness of Claims 1–17

Petitioner alleges that claims 1–17 of the ’580 patent are indefinite. *See* Pet. 95–99. Patent Owner argues that Petitioner has failed to meet its

burden to justify institution as to this ground. Prelim. Resp. 71–79. For the reasons that follow, we agree that Petitioner has failed to meet that burden.

1. Principles of Law

A claim is indefinite and therefore unpatentable if it, “read in light of the specification delineating the patent, and the prosecution history, fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014); *see id.* at 908 (“[D]efiniteness is to be evaluated from the perspective of someone skilled in the relevant art.”).

2. Validating

Claim 1, for example, recites “validating the request, wherein validation of the request indicates that the mobile device is authorized, by a remote server, to access the signals generated by the first peripheral device.” Ex. 1001, 53:25–28 (limitation 1.5(g)). The other independent claims contain the same or similar recitation.

Petitioner asserts that a person of ordinary skill in the art would not understand what is claimed by the “validating” term, and specifically contends that:

A [person of ordinary skill in the art] would not understand what, if any, computations or limits would contribute to the criteria or algorithm involved in determining whether a mobile device is authorized to access the signals of the peripheral device, or how that would be accomplished. The claims only recite transmission of abstract information at a high level of generality, without any insight into how the validation might be performed.

Pet. 95–96 (citing Ex. 1003 ¶ 365).

As an initial matter, a person of ordinary skill in the art would read a patent claim with an understanding of various terms of art, and notably Petitioner does not contend that a person of ordinary skill in the art would be unfamiliar with the concept of validating a request. Petitioner does not explain adequately why a person of ordinary skill would need to see a disclosure of the specific way of performing the act of validating in order to determine with reasonable certainty whether a given situation involves validating a request.

Petitioner asserts that the only disclosure of authorization (i.e. a validation process) in the Specification and prosecution history is “with respect to an authorization for funds, not an authorization to access a peripheral device or to perform a transaction.” Pet. 96. Petitioner contends that “[t]his would be understood by a [person of ordinary skill in the art] to conflict with the claim limitation.” *Id.* Petitioner also contends that the Specification discloses, via certain figures, an embodiment of “a specific authorization request and grant . . . having a scope that is inconsistent with the embodiments of [other figures].” Pet. 96–98. Patent Owner replies that “[t]he fact that similar authorization processes might be used to authorize different operations does not make them indefinite.” Prelim. Resp. 75.

We determine that Petitioner does not explain adequately how there is an inconsistency between the claimed invention and an embodiment in the Specification or between embodiments in the Specification, or how such a purported inconsistency in the Specification rises to the level of an indefiniteness problem with regard to the claimed invention. *See id.* at 96–98. Further, where Petitioner argues that the Specification discloses something completely different than that claimed—authorization for funds

versus authorization for peripheral access—we fail to see how a conflict arises. *See* Pet. 96.

Petitioner has not demonstrated that it is more likely than not that any challenged claim is indefinite due to the “validating” term.

3. *Registering*

Claim 1, for example, recites “registering the first peripheral device as a slave to the machine controller” and “registering the first peripheral device as a slave to the electronic device.” Ex. 1001, 53:6–9 (limitations 1.5(a)–(b)). The other independent claims contain the same or similar recitations.

Petitioner argues, without citing support from its declarant, that a person of ordinary skill in the art would not understand what is claimed by “registering” and that the Specification does not provide any insight. Pet. 98. In a manner similar to that for the “validating” term, Petitioner argues that neither the claims nor the Specification contains the specific technical details of “registering.” *See id.* Petitioner asserts that “the disclosure of the ’580 Patent is silent with respect to, for example, what memory registers the electronic device . . . and what memory registers the peripheral.” *Id.* at 99. However, Petitioner does not explain adequately why a person of ordinary skill in the art would need to be given such a disclosure in order to reasonably determine whether a given act constitutes “registering” within the meaning of the challenged claims. *See* Prelim. Resp. 76 (Patent Owner arguing that “Petitioners do not explain why it would be necessary to specify the memory that was used for registering the electronic device. For example, they cite to no evidence that such description would be required for a POSA to understand the claims or specification.”)

Patent Owner argues that

Petitioners do not assert that a POSA would not have understood the meaning of “registering” in the context of an MDB device as claimed; indeed, they expressly argue in Ground 1 that the steps of registering an electronic device and a peripheral were not only understood but inherently practiced as part of the MDB protocol.

Id. at 75 (citing Pet. 32–33). Specifically, Petitioner, in arguing that Anderson anticipates the challenged claims, asserts that “[t]he [MDB] protocol also requires that each peripheral be registered at the VMC.” Pet. 32–33. Petitioner also analogizes the challenged patent’s discussion of registering to that in “the standard MBD protocol.” *Id.* at 99. Petitioner’s arguments indicate that the act of registering is part of the MDB protocol, which undermines any argument that a person of ordinary skill in the art would lack a reasonable understanding of “registering” in the challenged claims.

Petitioner has not demonstrated that it is more likely than not that any challenged claim is indefinite due to the “registering” term.

4. A Second Signal

Petitioner argues that dependent claims 5, 11, and 17 are indefinite. Pet. 99. Claim 5, for example, depends indirectly from independent claim 1 and recites “receiving . . . a second signal from the first peripheral device.” Ex. 1001, 53:62–63. Dependent claims 11 and 17 contain the same or similar recitation. Petitioner’s entire argument is that “there is no ‘first signal’ from the first peripheral device recited in any of the claims on which these claims depend, rendering the claims indefinite for lack of antecedent basis.” Pet. 99.

Patent Owner argues, and we agree, that this is not an antecedent basis issue, as the recitation is “*a* second signal,” not elements traditionally requiring antecedent basis such as “*the* second signal” or “*said* second signal.” *See* Prelim. Resp. 77–78; *see* Ex. 1001, 53:62–63, 55:24–25, 56:60–61.

Petitioner does not explicitly argue, and we decline to conclude, that a person of ordinary skill in the art would fail to reasonably understand the scope of the recited “second signal.”

Petitioner has not demonstrated that it is more likely than not that claims 5, 11, or 17 is indefinite due to the “a second signal” term.

III. CONCLUSION

Petitioner has not demonstrated that, if the information in the Petition is unrebutted, it is more likely than not that any of claims 1–17 of the ’580 patent is unpatentable.

IV. ORDER

For the foregoing reasons, it is

ORDERED that the Petition is *denied* and no trial is instituted.

PGR2022-00035
Patent 11,074,580 B2

PETITIONER:

Holiday W. Banta
Safet Metjahic
Thomas Rammer
ICE MILLER US LLP
h.banta@icemiller.com
safet.metjahic@icemiller.com
tom.rammer@icemiller.com

PATENT OWNER:

Michael T. Rosato
Matthew A. Argenti
Jad A. Mills
WILSON SONSINI GOODRICH & ROSATI
mrosato@wsgr.com
margenti@wsgr.com
jmills@wsgr.com