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Paper 14
Date: August 11, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
Petitioner,

v.

CARDWARE INC.,
Patent Owner.

PGR2023-00013
Patent 11,328,286 B2

Before ELIZABETH M. ROESEL, SHARON FENICK, and IFTIKHAR AHMED, *Administrative Patent Judges.*

FENICK, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background and Summary

Samsung Electronics Co., Ltd. ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting post-grant review of claims 1–27 ("the challenged claims") of U.S. Patent No. 11,328,286 B2 (Ex. 1001, "the '286 patent"). CardWare Inc. ("Patent Owner") filed a Preliminary Response (Paper 9, "Prelim. Resp."). With the Board's authorization, Petitioner filed a Preliminary Reply (Paper 10) and Patent Owner filed a Preliminary Sur-reply (Paper 11). After further authorization, Petitioner filed a corrected Preliminary Reply (Paper 12, "Prelim. Reply") and Patent Owner filed a corresponding second Preliminary Sur-reply (Paper 13, "Prelim. Sur-reply").

A post-grant review may be instituted only if "the information presented in the petition filed under section 321, 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). For the reasons below, Petitioner has demonstrated that it is more likely than not that at least one of the challenged claims is unpatentable. Accordingly, we institute a post-grant review of the challenged claims of the '286 patent on all grounds raised in the Petition.

B. Real Parties in Interest

Petitioner identifies itself, Samsung Electronics Co., Ltd., as well as Samsung Electronics America, Inc. as real parties-in-interest. Pet. 50.

Patent Owner identifies itself, CardWare Inc., as a real party-in-interest. Paper 5 (Patent Owner's Mandatory Notices), 1.

C. Related Matters

The parties each identify as a related matter the district court case styled as *CardWare Inc. v. Samsung Electronics Co., Ltd. and Samsung*

Electronics America, Inc., Case No. 2:22-cv-00141 (E.D. Tex.). Pet. 50–51; Paper 5, 1.

The parties also indicate that the '286 is being challenged in another petition for post-grant review (PGR2023-00012). Pet. 51; Paper 5, 1.

D. The '286 Patent

The '286 patent is titled "Multi-Function Electronic Payment Card and Device System" and describes emulating a standard credit card with a device capable of generating a programmed magnetic field of alternating polarity when used in an electronic credit card reader. Ex. 1001, codes (54), (57), 2:22–28. The '286 patent observes that presently available credit cards, including cards with magnetic strips, cards with smart integrated circuit chips, and radio frequency identification (RFID) cards, have certain security limitations. *Id.* at 1:39–2:8. In addition, according to the '286 patent, chip cards and RFID cards "are not in wide use at present because they are incompatible with existing credit card infrastructure." *Id.* at 8–11. The '286 patent thus describes a device for "credit, debit and cash transactions, including cryptocurrency and card-to-card transactions," particularly with a limited-duration credit card number, that generates "a magnetic field of alternating polarity responsive to the body being detected as adjacent to a standard magnetic card reader." *Id.* at 2:28–51.

Figure 2B, reproduced below, illustrates "an exemplary embodiment of a smart multi-function electronic device." *Id.* at 5:62–63.

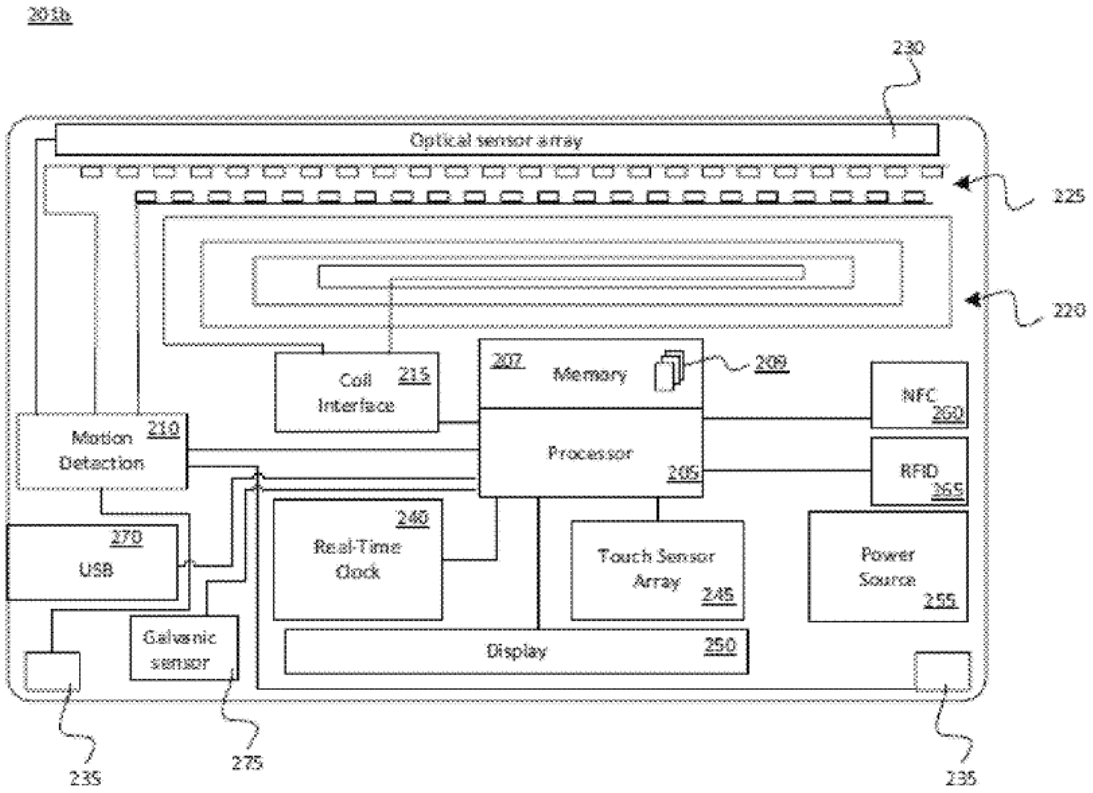


FIG. 2B

Figure 2B shows multi-function electronic device 201*b* comprising processor 205 and memory unit 207 that stores accounts 209, "which may be credit card accounts, banking accounts, merchant accounts, online accounts, cryptocurrency accounts, and combinations thereof." *Id.* at 6:51–59. Motion detector module 210 is coupled to processor unit 205 and to motion detection units, including rate detection assembly 225, optical sensor array 230, and accelerometers 235. *Id.* at 6:59–62. "Each of the motion detection units detects the motion of the credit card . . . in a distinct manner," and a detected movement signal received by motion detection module 210 and sent to processor unit 205 can be "generated by any one of the set of motion detection units, or any combination of motion detection units of the set." *Id.* at 8:2–9:3. Planar coil 220, controlled by processor unit 205 via coil

interface 215, generates a magnetic field that changes polarity to encode the user data at a rate depending "on the rate of relative movement detected by the rate detector." *Id.* at 6:64–7:1.

Device 201*b* also comprises touch-sensor array 245 and display 250, both of which are coupled to processor unit 205. *Id.* at 7:1–4. "A user input may be made via the touch sensor array 245, which may comprise a touch screen panel, a keypad, or a combination thereof." *Id.* at 7:4–6. And "display 250 is able to display an alphanumeric sequence, as well as graphical icons (such as a logo for a bank, or other images)." *Id.* at 7:7–9.

Figure 2C, reproduced below, illustrates "a process of selecting an account from a plurality of stored accounts in order to perform a transaction with the selected account." *Id.* at 7:38–40.

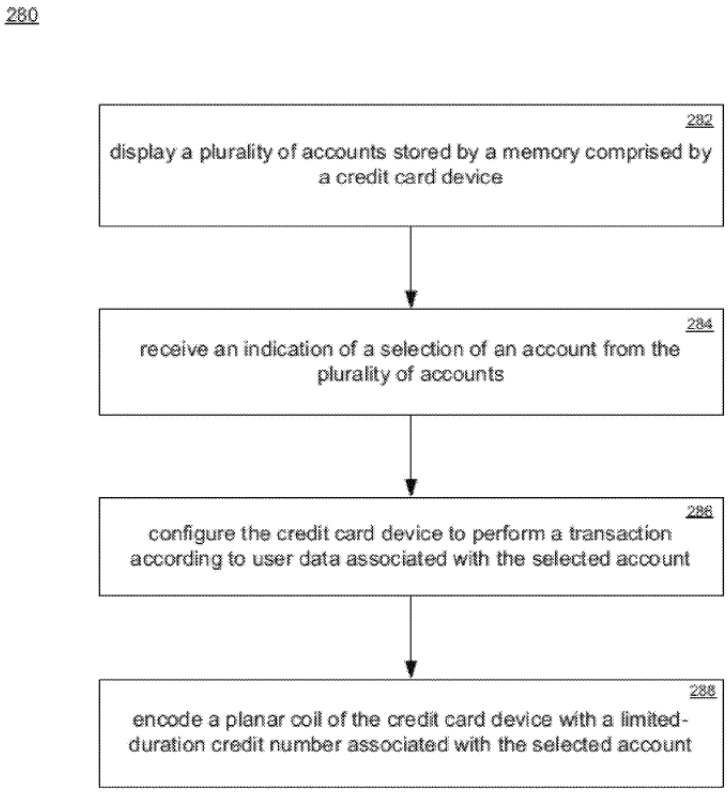


FIG. 2C

As shown in Figure 2C, process 280 begins at step 282 with the display, on display 250 of a multi-function electronic device, of accounts stored in memory unit 207. *Id.* at 7:41–45; *see also id.*, Fig. 2B. At step 284, a user selects an account by using touch sensor array 245, and the selected account may be indicated on display 250. *Id.* at 7:45–49; *see also id.*, Fig. 2B. At step 286, the multi-function electronic device is then "configured according to account information associated with the selected account, which may include an account number, an expiration date, and other user information associated with the account (e.g. a username, PIN, password, email address, etc.)." *Id.* at 7:49–54. Planar coil 220 is then, at step 288, "encoded with a limited-duration credit card number that is associated with the selected account." *Id.* at 7:54–57.

E. Illustrative Claim

Of the challenged claims, claims 1, 15, and 20 are independent. Claim 1, reproduced below with bracketed identifiers added as used by the Petitioner (*see* Pet. vi–vii), is illustrative.

1. [1.0] A payment system comprising:

[1.1] a payment card device free of any fixed payment numbers visible thereon and wherein said payment card device is operable for use in payment card reader equipment; and

[1.2] a computing device comprising:

a processor;

[1.3] a memory;

[1.4] a wireless interface;

[1.5] a touch-screen user interface operable to provide a visual user-interface for user payment interactions; and

[1.6] a user-input device coupled to the processor, and

[1.7] wherein the processor is operable to store a transaction sequence count, a device account number and secrets limited to the computing device, and

[1.8] wherein the computing device is operable to receive, store and transmit a card payment information not visible on the payment card device, and

[1.9] wherein the processor is operable to generate at least a portion of a limited-user card payment information for use by an authenticated card user, and

[1.10] wherein the computing device is operable to convey said limited-use card payment information via an interface of the computing device, and

[1.11] wherein a card issuer authority is operable to reject as invalid a transaction attempt outside of its limitations of use,

[1.12] wherein a card issuer authority is operable to validate a card payment information as authentic when received from at least one of: an authenticated users payment card; and an authenticated users computing device, and

[1.13] wherein the card issuer authority is operable to permit the authentic transactions to complete.

Ex. 1001, 19:50–20:15.

F. Asserted Grounds

Petitioner raises the following grounds of unpatentability with respect to the challenged claims:

Claims Challenged	35 U.S.C. §	Basis
1–27	101	Patent Eligibility
1–19	112	Indefiniteness
12, 13, 17	112	Enablement
20–27	112	Written Description

Pet. 7.

II. POST-GRANT REVIEW ELIGIBILITY

As a threshold issue, we must determine whether the '286 patent is eligible for post-grant review. The post-grant review provisions of the AIA apply to a patent that contains a claim with an effective filing date on or after March 16, 2013. *See* AIA, Pub. L. No. 112-29, 125 Stat. 284 (2011), §§ 3(n)(1), 6(f)(2)(A). The statute defines the "effective filing date" as:

> (A) if subparagraph (B) does not apply, the actual filing date of the patent or the application for the patent containing a claim to the invention; or
>
> (B) the filing date of the earliest application for which the patent is entitled, as to such invention, to a right of priority under section 119, 365(a), 365(b), 386(a), or 386(b) or to the benefit of an earlier filing date under section 120, 121, 365(c), or 386(c).

35 U.S.C. § 100(i)(1).

For a claim in a later-filed application to be entitled to the filing date of an earlier application, the earlier application must provide written description support for the claimed subject matter. *Anascape, Ltd. v. Nintendo of Am. Inc.*, 601 F.3d 1333, 1337 (Fed. Cir. 2010). The written description requirement "guards against the inventor's overreaching by insisting that he [or she] recount his [or her] invention in such detail that his [or her] future claims can be determined to be encompassed within his [or her] original creation." *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1561 (Fed. Cir. 1991). The test for determining compliance with the written description requirement under § 112(a) is whether the original disclosure of the earlier-filed application reasonably would have conveyed to one with ordinary skill in the art that the inventor had possession of the claimed subject matter at the time of the earlier-filed application. *Ariad Pharm., Inc. v. Eli Lilly& Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). It is well settled that "[e]ntitlement to a filing date does not extend to subject matter

which is not disclosed but would be obvious over what is expressly disclosed." *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1571−72 (Fed. Cir. 1997). "It is not sufficient for purposes of the written description requirement of § 112 that the disclosure, when combined with the knowledge in the art, would lead one to speculate as to modifications that the inventor might have envisioned, but failed to disclose." *Id.*

The '286 patent claims priority to a provisional application filed on March 15, 2013, U.S. Provisional App. No. 61/794,891 (Ex. 1012, "the '891 provisional"). Ex. 1001, code (60), 1:6–27. Petitioner argues that claims 3, 5, 6, 12, 15, and 20[1] of the '286 patent lack written description and enabling support in the '891 provisional, and that therefore the '286 patent is eligible for post-grant review. Pet. 1–6. Patent Owner argues that Petitioner has not shown that any claim is not entitled to claim priority to the '891 provisional. Prelim. Resp. 14–26. We address claim 5 in detail. Based on the present record and for the purpose of institution, we determine that there is insufficient support for claim 5 in the '891 provisional, and the '286 patent is eligible for post-grant review.

A. Level of Ordinary Skill in the Art

Petitioner contends that:

> A person of ordinary skill in the art . . . would have had (1) a bachelor's degree in computer science, computer engineering, electrical engineering, or a related field, and (2) one to two years of experience working with payment processing and/or digital authentication systems, including familiarity with short-range wireless technologies.

[1] Claim 20 is listed as unsupported in the table listing assertedly unsupported claims, but argument is only presented with respect to the other claims in the table. Pet. 2–6.

Pet. 9 (citing Ex. 1003 ¶¶ 46–61). Patent Owner does not dispute Petitioner's proposed level of ordinary skill in the art. *See* Prelim. Resp.

For purposes of this Decision, we apply Petitioner's definition of the level of ordinary skill in the art, which is consistent with the level of skill reflected in the Specification and in the asserted prior art references. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

B. Claim 5

Claim 5 depends from claim 1, adding two additional limitations, one of which recites that "the information presented on an interface of said card device, are limited to an in-store merchant card reader facility use only." Ex. 1001, 20:39–41.

Petitioner argues that "the provisional application does not describe limiting the field of use of the payment card device to in-store card reader facility use only, to the exclusion of online transactions." Pet. 4 (citing Ex. 1003 (Declaration of Dr. Michael I. Shamos) ¶ 35). Petitioner argues that the provisional application states explicitly that "the credit card of the present invention could also be used to make online purchases." *Id.* (citing Ex. 1012 ¶ 17). Patent Owner contends that the '891 provisional's disclosure is of a card that only generates usable payment information upon use at an in-store merchant, and that such a card therefore "lacks payment information, such that it cannot be used in an online store." Prelim. Resp. 17–18 (citing Ex. 1012, page 19[2] (figure)), ¶ 14; Ex. 2007 (Declaration of Dr. William C. Easttom II) ¶ 36)). Patent Owner argues, with respect to the '891 provisional's disclosure relating to online transactions, that this

[2] Exhibit 1012 contains page numbers added by Petitioner; when not referring to paragraph numbers, we use these added page numbers to refer to portions of the '891 provisional.

disclosure describes the card connecting to a personal computer "to ***uniquely*** generate" payment information for online purchases. *Id.* at 18 (quoting Ex. 1012 ¶ 17). Patent Owner argues that this means that "the information for online purchases is unique from that used for in-store transactions." *Id.*

On this record, and for the purposes of institution, we agree that Petitioner has sufficiently shown that the information presented on the interface of the card device is not described in the '891 provisional as being limited to use in an in-store merchant card reader facility. The '891 provisional describes the card "connect[ing] to a personal computer" for use in generating payment information for online purchases. Ex. 1012 ¶ 17. While Patent Owner argues that the description in the '891 provisional of "uniquely generat[ing] a credit card number" means a use "unique from that used for in-store transactions," this description echoes the general description of the use of the card to provide "a unique credit card number . . . for each transaction." *Compare* Ex. 1012 ¶ 14, *with id.* ¶ 17.

Dr. Easttom's testimony that "[g]iven that the payment card disclosed in the provisional does not have visible account information, there is no way for a user to simply use the information that might be presented on an interface of the card (such as a partial number) to perform an online transaction," does not appear to take into account the description in the provisional that the card is connected to the personal computer via RFID or near field technology to generate the credit card number, and thus that information would not need to be visually presented to a user in order to be used. Ex. 2007 ¶¶ 36–39; Ex. 1012 ¶ 17. The description of this connection is followed by a description that the number "*could* also" be displayed on a front display of the card. Ex. 1012 ¶ 17 (emphasis added). Our determination is that this describes the generated number *could* be displayed

for the user, or alternatively (if not displayed) could be used without being displayed on the front display of the card. This is confirmed in the immediately following sentence, describing an embodiment in which the payment card is "equipped with a means for communicating with the USB port on the computer in connection with making the online purchases." *Id.* "A connector for connection to standard computing devices" is described in the '891 provisional as a "USB *interface*." *Id.* at claim 8 (p. 17).

Dr. Easttom concludes that, if there is no visible account information on the payment card, "there is no way for a user to simply use the information that might be presented on an interface of the card . . . to perform an online transaction." Ex. 2007 ¶ 36. This conclusion appears to rely on an assumption that claim 5's "an interface of said card device" must be a display of the card device, such as the thin film liquid crystal display described in the '891 provisional. Ex. 2007 ¶ 36; Ex. 1012 ¶ 16 (describing display), p. 19 (figure). But, as discussed, the '891 provisional describes a card with a USB interface used in making online purchases.

On this record, and for the purposes of institution, Petitioner has shown sufficiently that the '891 provisional does not support a payment card device presenting information on an interface of said card device that is limited to in-store merchant card reader facility use, as recited in claim 5, and the '286 patent is eligible for post-grant review.

III. DISCRETION UNDER 35 U.S.C. § 324(a)

Petitioner, having filed two petitions for post grant review (in this proceeding and PGR2023-00012) of the '286 patent, submitted a Ranking of Petitions. Paper 3 ("Ranking Paper"); *see* PTAB Consolidated Trial Practice Guide, 59–60 (Nov. 2019) ("CTPG"). We address whether the parallel petitions raise fairness, timing, and efficiency concerns. CTPG 59–60.

Additionally, Patent Owner argues that we should exercise discretion to deny institution under 35 U.S.C. § 324(a) because the factors identified in *Apple, Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv*"), weigh in favor of denying institution. Prelim. Resp. 48–50. Petitioner argues we should not discretionarily deny institution for efficiency reasons and after considering the *Fintiv* factors. Pet. 50–57.

A. Parallel Petitions Challenging the Same Patent

As noted above, Petitioner filed two petitions on the same day. This Petition challenges all claims of the '286 patent under 35 U.S.C. §§ 101 and 112, and PGR2023-00012 challenges the same claims under obviousness grounds. Pet. 7; PGR2023-00012, Paper 3 (Petition), 7.

Pursuant to the Board's Consolidated Trial Practice Guide ("Trial Practice Guide"), Petitioner provides a ranking of the two petitions in the order in which Petitioner wishes the Board to consider the merits and an explanation of the differences between the petitions. Ranking Paper; *see* CTPG 59–60. Petitioner ranks its petition in PGR2023-00012 first, and ranks the Petition here second. Petitioner asserts that because Patent Owner has asserted a large number of claims in the district court litigation, and because "the claims are long, with multiple wordy limitations, and generally include distinct limitations that are required to be addressed individually with respect to the cited prior art references," the parallel petitions are justified. Ranking Paper 1–2 (citing CTPG 59).

Patent Owner does not directly address whether we should use our discretion to deny this Petition due to the parallel filing of PGR2023-00012. Patent Owner does argue that we should deny institution of the Petition based on efficiency concerns because "the vast majority – if not all – of

Samsung's multiple challenges" do not meet the institution standard. Prelim. Resp. 50–51. However, this argument relates to the strength of the merits and not to the propriety of considering these two parallel petitions. Patent Owner additionally argues, with respect to *Fintiv* factor 4, that the stipulation offered is less effective because it does not "take into account Samsung's dual Petitions challenging the same claims." *Id.* at 55–56.

Institution of a post-grant review is discretionary. *See* 35 U.S.C. § 324(a); *cf. Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (interpreting, in an *inter partes* context, that the similar language in 35 U.S.C. § 314(a) means "the PTO is permitted, but never compelled, to institute an IPR proceeding."). In evaluating whether to exercise that discretion here, we turn to the Trial Practice Guide, which provides guidance on whether institution of more than one concurrently filed petition challenging the same patent is appropriate. *See* CTPG 59.

The Trial Practice Guide states that "one petition should be sufficient to challenge the claims of a patent in most situations." CTPG 59. "Two or more petitions filed against the same patent at or about the same time . . . may place a substantial and unnecessary burden on the Board and the patent owner and could raise fairness, timing, and efficiency concerns." *Id.* (citing 35 U.S.C. § 316(b), which is identical to 35 U.S.C. § 326(b)). Although rare circumstances may necessitate two petitions, "the Board finds it unlikely that circumstances will arise where three or more petitions by a petitioner with respect to a particular patent will be appropriate." *Id.*

To help the Board determine whether multiple petitions are necessary, the Trial Practice Guide further instructs a petitioner filing multiple petitions challenging the same patent to explain "the differences between the petitions, why the issues addressed by the differences are material, and why

the Board should exercise its discretion to institute additional petitions if it identifies one petition that satisfies petitioner's burden under 35 U.S.C. § 314(a)." CTPG 59–60. Additionally, the Trial Practice Guide instructs the patent owner to "clearly proffer any necessary stipulations," where the patent owner asserts that "the differences identified by the petitioner are directed to an issue that is not material or not in dispute." *Id.* at 61. The patent owner may, for example, "seek to avoid additional petitions by proffering a stipulation that certain claim limitations are not disputed or that certain references qualify as prior art." *Id.*

In light of the particular facts before us, we decline to exercise our discretion to deny the Petition pursuant to 35 U.S.C. § 324(a) on the basis of the filing of two parallel petitions. In particular, we recognize that the two petitions do not include duplicate attacks on the basis of unpatentability over prior art, but rather break the issues into two distinct parts—prior-art based unpatentability challenges, in PGR2023-00012, and 35 U.S.C. §§ 101 and 112 challenges here. The usual considerations of fairness, timing, and efficiency do not weigh in favor of exercising our discretion to deny institution. In particular, the petitions were filed concurrently, which means that Petitioner did not gain a timing advantage that might otherwise occur if the petitions were filed serially. Additionally, the proceedings can be coordinated, and a similar or common schedule can be adopted. To the extent that Patent Owner argues (*see* Prelim. Resp. 55–56) that Petitioner was attempting to avoid providing a single stipulation that (upon institution) Petitioner will pursue neither section 103 grounds on certain art, as per the stipulation offered in PGR2023-00012, nor section 101 and 112 grounds as per the stipulation here (*see* Pet. 49), discretionary denial of this Petition would not provide such a stipulation. Because we institute both here and in

PGR2023-00012, the effect of the two stipulations in these two proceedings is equivalent to our best understanding of Patent Owner's desired stipulation "tak[ing] into account" the two Petitions.

Accordingly, based on the particular facts and circumstances before us, we decline to exercise our discretion to deny the instant Petition under § 324(a) on the basis of the Petitioner's filing of multiple petitions.

B. Fintiv *Analysis*

The precedential decision in *Fintiv* identifies a non-exclusive list of factors parties may consider addressing where there is a related, parallel district court action to determine whether such action provides any basis for discretionary denial. *Fintiv*, 5–16. Those factors include:

> 1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
>
> 2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
>
> 3. investment in the parallel proceeding by the court and the parties;
>
> 4. overlap between issues raised in the petition and in the parallel proceeding;
>
> 5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
>
> 6. other circumstances that impact the Board's exercise of discretion, including the merits.

Id. at 5–6.

In evaluating the factors, we take a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review. *Id.* at 6. The Director has issued additional guidance on the application of *Fintiv*. *See* Katherine K. Vidal, *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court*

Litigation (June 21, 2022)[3] ("*Fintiv* Memo"). Additionally, we are guided by the precedential decisions of the Director in *OpenSky Indus., LLC v. VLSI Tech. LLC*, IPR2021-01064, Paper 102, 49–50 (Oct. 4, 2022) (precedential) and *CommScope Techs. LLC v. Dali Wireless, Inc*, IPR2022-01242, Paper 23 (Feb. 27, 2023) (precedential) ("*CommScope*").

We are instructed to consider compelling merits under *Fintiv* factor six only after a determination that the first five *Fintiv* factors favor discretionary denial. *CommScope*, 4–5. Thus, we begin by considering the first five *Fintiv* factors.[4]

1. First Five Fintiv *Factors*

a) Factor 1 - Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted

"A district court stay of the litigation pending resolution of the PTAB trial allays concerns about inefficiency and duplication of efforts." *Fintiv*, 6. *Fintiv* indicated that, in previous Board decisions, the existence of a district court stay pending Board resolution of an *inter partes* review has weighed strongly against discretionary denial, while a denial of such a stay request sometimes weighs in favor of discretionary denial. *Id.* at 6–8.

Patent Owner notes that a stay was requested after the filing of the Petition and not granted in the district court litigation, and asserts that this factor should be viewed as neutral. Prelim. Resp. 52; Ex. 1107.[5]

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[3] Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf

[4] While *Fintiv* factor six encompasses considerations other than the compelling merits, neither party has argued such considerations exist in this case.

[5] Patent Owner cites Exhibit 2003. Exhibits 1107 and 2003 appear to be the same order, but Exhibit 1107 is signed by the magistrate judge.

The court in the district court litigation noted in its denial of the stay request that it was following "the universal practice" in the district, to deny a stay based on post-grant review requests where institution decisions have not yet been issued, and provided no additional reasoning or indication of future action with respect to any potential renewal of the stay request. Ex. 1107. Because, "[i]n the absence of specific evidence, we will not attempt to predict" whether a district court would stay "based on a variety of circumstances and facts beyond our control and to which the Board is not privy," we find this factor to be neutral. *See Sand Revolution II, LLC v. Cont'l Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 7 (PTAB June 16, 2020) (informative) ("*Sand Revolution*").

b) Factor 2 - Proximity of the court's trial date to the Board's projected statutory deadline for a final written decision

The proximity factor in *Fintiv* asks us to evaluate our discretion in light of a trial date that has been set in a parallel litigation. *See Fintiv*, 3, 5 ("*NHK* applies to the situation where the district court has set a trial date to occur earlier than the Board's deadline to issue a final written decision in an instituted proceeding."; "When the patent owner raises an argument for discretionary denial under *NHK* due to an earlier trial date, the Board's decisions have balanced the following factors . . . .") (citing *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential)("*NHK*")). As noted above in the discussion of the first factor, *Fintiv* cites concern regarding "inefficiency and duplication of efforts." *Id.* at 6. In its analysis of the proximity factor, *Fintiv* echoes that concern in its guidance that "[i]f the court's trial date is at or around the same time as the projected statutory deadline or even significantly after the projected statutory deadline, the decision whether to institute will likely

implicate other factors discussed herein, such as the resources that have been invested in the parallel proceeding." *Id.* at 9. Similarly, in *NHK*, the Board expressed concern that a trial before the deadline for a final written decision addressing the same prior art and arguments would have undermined the Board's objectives of providing an effective and efficient alternative to district court litigation. *See NHK*, 20 (citing *General Plastic Indus. Co., Ltd. v. Cannon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 16–17 (PTAB Sept. 6, 2017 (precedential))).

We are instructed that

> when analyzing the proximity of the court's trial date under factor two of *Fintiv*, when other relevant factors weigh against exercising discretion to deny institution or are neutral, the proximity to trial should not alone outweigh all of those other factors. Parties may present evidence regarding the most recent statistics on median time-to-trial for civil actions in the district court in which the parallel litigation resides for the PTAB's consideration. Where the parties rely on time-to-trial statistics, the PTAB will also consider additional supporting factors such as the number of cases before the judge in the parallel litigation and the speed and availability of other case dispositions.

Fintiv Memo, 8–9 (internal citations and footnote deleted).

Based on median time-to-trial data for the Eastern District of Texas, Petitioner asserts that "trial would be expected to occur in May, 2024" but that "delays are possible" and indicated by the median time to trial statistics. Pet. 48 (citing Ex. 1103, 35; Ex. 1104). According to Petitioner, a final written decision ("FWD") in this proceeding is anticipated in July of 2024. *Id.* Nevertheless, Petitioner argues that "[t]he Board should not deny institution due to the close proximity of the expected FWD and the predicted trial date in E.D. Tex." *Id.*

Patent Owner contends that as the docket control order sets jury selection for February 5, 2024, the district court trial date precedes the anticipated final written decision deadline by six months. Prelim. Resp. 52 (citing Ex. 2001). Patent Owner additionally argues that, if the Board relies on median time-to-trial, then we should use the more recent time-to-trial data for the district, which would indicate an even earlier trial date than that scheduled in the docket control order, or the specific judge's median time-to-trial, which is similar. *Id.* at 53–54 (citing Ex. 2004, 35; Ex. 2002, 1). Patent Owner additionally argues that the *Markman* hearing was set for August 1, 2023. *Id.* at 52 (citing Ex. 2001).

Because the trial in the district court litigation, under any of the parties' proposed approaches, appears likely to begin several months before our deadline to reach a decision, this factor weighs in favor of discretionary denial.

c) Factor 3 - Investment in the parallel proceeding by the court and the parties

If, at the time of the institution decision, the district court has issued substantive orders related to the challenged patent, such as a claim construction order, this fact weighs in favor of denial. *See Fintiv*, 9–10. On the other hand, if the district court has not issued such orders, this fact weighs against discretionary denial. *Id.* at 10.

Petitioner argues that the bulk of investment in the district court litigation has yet to occur, and that no part of claim construction or document production had occurred at the time of the filing of the Petition. Pet. 49.

Patent Owner argues that by the time of our decision, the claim construction process will be complete and the document production process substantially complete. Prelim. Resp. 54 (citing Ex. 2001, 3–4).

The docket control order shows that the claim construction hearing was scheduled to take place on August 1, 2023. Ex. 2001, 3. *Fintiv* directs us to consider whether "the petitioner filed the petition expeditiously." *Fintiv*, 11. Although we are mindful of the investment of the parties to date, we find that, at this time, that no substantive orders related to the challenged patent have been issued by the district court. Additionally, on the record before us the filing of the Petition was expeditious. We determine this factor weighs slightly against exercising discretion to deny institution.

d) Factor 4 - Overlap between issues raised in the petition and in the parallel proceeding

"[I]f the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial." *Fintiv*, 12. "Conversely, if the petition includes materially different grounds, arguments, and/or evidence than those presented in the district court, this fact has tended to weigh against exercising discretion to deny institution under *NHK*." *Id.* at 12–13. A stipulation as in *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18–19 (PTAB Dec. 1, 2020) (precedential as to § II.A), if one is entered, would be highly relevant. "Consistent with *Sotera Wireless, Inc.*, the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a parallel proceeding the same grounds or any grounds that could have reasonably been raised before the PTAB." *Fintiv* Memo 3 (footnote omitted).

Petitioner offers, in the Petition, a stipulation that, if IPR is instituted, "it will not pursue in the Related District Court Litigation invalidity grounds under 35 U.S.C. §§ 101 or 112 against the Challenged Claims of the '286 patent." Pet. 49. Petitioner argues that this will remove all overlap between the proceedings.

Patent Owner argues "the Related Litigation will have already considered at least Section 112 pre-institution and reached a final jury verdict on validity months before the statutory deadline for a Final Written Decision." Prelim. Resp. 55. Patent Owner additionally argues that "Samsung has already asked the district court to consider many of the *same* indefiniteness arguments in district court." *Id.* (citing Ex. 2006; Ex. 2034).

Patent Owner's reference to the final jury verdict ignores the language of the stipulation – that Petitioner will not pursue section 101 or 112 invalidity grounds in the related district court litigation *if we institute*. Although we understand that a *Markman* hearing was scheduled to occur in the days before this Decision, we do not understand an order to have issued, and thus, there is no conflicting decision. Additionally, while Patent Owner argues that "many of the *same* indefiniteness arguments" are at issue in district court, the parties prehearing statement in the related litigation shows that the claim terms of the '286 patent that Petitioner asserted were indefinite are "static" in claims 20, 21, and 24–27, "its limitations of use" in claim 1, "valid range of device limitations" in claim 6, and "a biometric sensing of a recognized user proximity" in claim 12. Ex. 2034, 18, 28, 29. Only two of these indefiniteness arguments are made before us, while many additional arguments related to indefiniteness are made here that are not at issue in district court. *See* Pet. 39–45. Based on this record, we find that

Petitioner's stipulation will reduce the potential overlap that may occur with the district court litigation, and that the potential for overlap is not extensive.

Thus, we determine this factor weighs against exercising discretion to deny institution.

e) Factor 5 - Whether the petitioner and the defendant in the parallel proceeding are the same party

If the petitioner is unrelated to the defendant in the parallel proceeding, that might weigh against discretionary denial. *See Fintiv*, 13–14.

Patent Owner notes that the related district court litigation involves the same parties. Prelim. Resp. 56.

As with *Fintiv* factor 2, therefore, this factor weighs marginally in favor of exercising our discretion to deny the Petition.

2. Conclusion

We have considered the circumstances and facts before us in view of the first five *Fintiv* factors. Because our analysis is fact-driven, no single factor is determinative of our conclusion. Considering these five *Fintiv* factors together, we determine that they do not favor a discretionary denial. As we do not find that the first five *Fintiv* factors favor discretionary denial, we therefore do not make a determination regarding compelling merits under *Fintiv* factor 6, and our consideration ends with this conclusion. *CommScope*, 4–5.

IV. PATENTABILITY ANALYSIS

In a post-grant review, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable. *See* 35 U.S.C. § 322(a)(3) (requiring post-grant review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to

each claim"); *cf. Harmonic Inc.*, 815 F.3d at 1363 (Fed. Cir. 2016) ("[I]t was [Petitioner's] burden to explain to the Board how [the combination of prior art] rendered the challenged claims unpatentable."). This burden never shifts to Patent Owner. *Cf. Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

A. Claim Construction

We construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc), i.e., as construed in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b). Under *Phillips*, claim terms are afforded "their ordinary and customary meaning." *Phillips*, 415 F.3d at 1312. "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1313. "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313. An inventor may rebut that presumption by providing a definition of the term in the specification "with reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, limitations are not to be read from the specification into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

We address the meaning of several claim terms below and determine that no additional claim construction is needed for purposes of this Decision. Our claim constructions are not final, and we invite the parties to address

claim construction in their post-institution submissions to the extent allowable by our rules.

1. Alleged printed matter in claims 1, 5, 15, 19, and 20

Petitioner contends that claims 1, 5, 15, 19, and 20 include limitations directed to printed matter because they have "no functional or structural relationship to the claimed substrate on which the information is disposed or printed," and that these limitations, therefore, are entitled to no patentable weight. Pet. 8–9.

On this record, we agree with Petitioner that claim elements 1.1, 1.8, 5.0, 15.1, 19.0, 19.1, and 20.[6]1 recite printed matter entitled to no patentable weight.

"[P]rinted matter encompasses any information claimed for its communicative content, and the doctrine prohibits patenting such printed matter unless it is 'functionally related' to its 'substrate,' which encompasses the structural elements of the claimed invention." *C R Bard Inc. v. AngioDynamics, Inc.*, 979 F.3d 1372, 1381 (Fed. Cir. 2020); *see also Praxair Distribution, Inc. v. Mallinckrodt Hosp. Prod. IP Ltd.*, 890 F.3d 1024, 1031 (Fed. Cir. 2018) ("Claim limitations directed to printed matter are not entitled to patentable weight unless the printed matter is functionally related to the substrate on which the printed matter is applied."); *In re Distefano*, 808 F.3d 845, 848 (Fed. Cir. 2015) ("[I]f a limitation claims (a) printed matter that (b) is not functionally or structurally related to the physical substrate holding the printed matter, it does not lend any patentable weight to the patentability analysis.").

[6] We use the claim limitation identifiers as used by Petitioner in the Petition's claim listing. *See* Pet. vi–xiii.

In our view, claim elements 1.1, 1.8, 5.0, 15.1, 19.1, and 20.1 recite printed matter entitled to no patentable weight because they require that a particular type of information—"fixed payment numbers" or "card payment information" or "payment number information"—be absent from the face of the payment card device. If they were affirmatively recited, "fixed payment numbers" or "payment number information" would no doubt qualify as information claimed for its communicative content that is not functionally related to the substrate, as no reference to or functional use of such fixed payment numbers, card payment information, or payment number information is found in claims 1, 5, 15, 19, and 20. The negative limitation, that no fixed payment numbers, card payment information, or payment number information is on the device, is just as much recitation of printed matter as the affirmative recitation would be. In both cases, information is being claimed for its communicative content. These claim elements simply recite that a particular type of information—fixed payment numbers, card payment information, or payment number information—is not included in the communication.

Patent Owner argues that these claim elements are "functionally related to the claimed devices within the claimed system" because "the claimed 'no fixed payment numbers' and similar enhance the security of the claimed systems by removing the possibility that 'a malicious third party [would] record [such information] in order to later make fraudulent transactions on the account.'" Prelim. Resp. 22 (citing Ex. 1001, 9:62–10:2). We disagree. Our reviewing court instructs: "In evaluating the existence of a functional relationship, we have considered whether the printed matter merely informs people of the claimed information, or whether it instead interacts with the other elements of the claim to create a new

functionality in a claimed device or to cause a specific action in a claimed process." *Bard*, 979 F.3d at 1381. Fixed payment numbers inform people of particular information, and claim elements 1.1, 1.8, 5.0, 15.1, 19.1, and 20.1 recite that the matter printed on the payment card device should not inform people of that particular information. The absence of fixed payment numbers does not interact with the other elements of the claim to create a new functionality in a claimed device or to cause a specific action in a claimed process.

The foregoing analysis applies equally to element 19.0 of dependent claim 19, which recites an limitation that recites that the payment card device "comprises fixed payment information disposed thereon," but that such fixed payment information "comprises only" certain types of information.

2. Alleged additional non-limiting claim features in claims 1, 6, 11, 13–15, and 17

Petitioner contends that claims 1, 6, 11, 13–15, and 17 include features that "are not limiting as they do not define further limitations of the recited payment devices and systems." Pet. 9–10. The claim elements relate to certain limitations on a "card issuer authority," a "card issuing authority," or a "payment issuing authority." Ex. 1001, 20:7–15, 20:45–59, 21:13–16, 21:38–46, 22:6–12, 22:25–29. Petitioner argues, without more, that in claim 1, the "card issuer authority" is not recited as being included in the "payment system" and that therefore "language describing a function the card issuer authority 'is operable' to perform does not limit any aspect of the claimed payment system." Pet. 10. On this record, Petitioner has not shown these limitations to be non-limiting to the scope of the claims.

B. Ground 1: Patent-ineligibility of claims 1–27

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 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 Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Alice*, 573 U.S. 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 id.* 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 water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S.

252, 267–68 (1854))); 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 Supreme 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 Supreme 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.* (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 (quotation marks omitted). "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.*

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) ("Guidance").[7] "All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance." (*Id.* at 51; *see also* October 2019 Update at 1).[8]

Under the 2019 Revised Guidance, 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* Manual of Patent Examining Procedure ("MPEP") § 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 10.2019 (June 2020))) ("Step 2A, Prong Two").[9]

(Guidance, 84 Fed. Reg. at 52–55).

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

[8] The Manual of Patent Examining Procedure incorporates the 2019 Guidance and subsequent updates in Section 2106 (9th ed. Rev. 10.2019, rev. June 2020).

[9] 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* Guidance – Section III(A)(2), 84 Fed. Reg. at 54–55.

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" in the field (*see* MPEP § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

(Guidance, 84 Fed. Reg. at 52–56). The U.S. Court of Appeals for the Federal Circuit has explained that "the 'directed to' inquiry applies a stage-one filter to claims, considered in light of the [S]pecification, based on whether 'their character as a whole is directed to excluded subject matter.'" *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)). It asks whether the focus of the claims is on a specific improvement in relevant technology or on a process that itself qualifies as an "abstract idea" for which computers are invoked merely as a tool. *See Enfish*, 822 F.3d at 1335–36.

In so doing, as indicated above, we apply a "directed to" two prong test: 1) evaluate whether the claim recites a judicial exception, and 2) if the claim recites a judicial exception, evaluate whether the claim "appl[ies], rel[ies] on, or use[s] the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." (Guidance, 84 Fed. Reg. at 53; *see also* MPEP §§ 2106.04–2106.05).

1. Prong One – Evaluation of Whether the Claim Recites a Judicial Exception

Petitioner argues that claim 1 is directed to generic and conventional computer components, and to the use of those components in generating, receiving, storing, transmitting, and analyzing payment information. Pet. 16–18. Petitioner argues that this is similar to the claims enabling a transaction between a user and a merchant that the Federal Circuit found ineligible in *Universal Secure Registry v. Apple, Inc.*, 10 F.4th 1342, 1349 (Fed. Cir. 2021) ("*USR*"). Petitioner asserts that the '286 patent describes the generation of a limited-duration credit card number "according to" certain information associated with the transaction, but "discloses no formulas or instructions on how to generate the limited-duration credit card number" according to the recited information. *Id.* at 18. Generally, Petitioner argues that the claims are directed to fundamental economic practices and commercial or legal interactions. *Id.* at 28–29.

Patent Owner argues that the claim is directed to a payment system incorporating security improvements utilizing a specific technique that departs from earlier approaches to solve a specific computer problem. Prelim. Resp. 18–22, 24–25 (citing *Ancora Techs., Inc. v. HTC Am.*, Inc., 908 F.3d 1343 (Fed. Cir. 2018); *Finjan, Inc. v. Blue Coat Systems*, 879 F.3d 1299, 1305 (Fed. Cir. 2018); *SRI Int'l Inc. v. Cisco Systems, Inc.*, 930 F.3d 1295 (Fed. Cir. 2019)). Patent Owner argues that the *USR* case is inapposite because Petitioner "oversimplifies the claimed invention of the '286 patent and ignores the improvement to payment security" and "[t]he claims [of the '286 patent] are not simply directed to a 'mapping' of one piece of information to another." *Id.* at 22–24. Patent Owner argues that Petitioner's

arguments are contradicted by its arguments in its application for a patent relating to improved network security. *Id.* at 27–29.

On the present record, we determine that Petitioner has sufficiently shown that the claim 1 is directed to the secure verification of a user's information in order to enable a transaction with a payment server. *See USR*, 10 F.4th at 1353; *Innovation Scis., LLC v. Amazon.com, Inc.*, 778 F. App'x 859, 863 (Fed. Cir. 2019) (finding "securely processing a credit card transaction with a payment server" to be an abstract idea). As the Petitioner argues, "Representative Claim 1 concerns payment transactions using substitute payment information that is available for a 'limited use' in place of, e.g., a credit card number, and conveying and validating that substitute information prior to completing a transaction." Pet. 16. The decisions in *Ancora Techs.*, *Finjan*, and *SRI Int'l* do not change our preliminary view of the sufficiency of Petitioner's contentions. In *Ancora Techs.*, the court found that the claim "specifically identifie[d] how [the] functionality improvement is effectuated in an assertedly unexpected way" and had "the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it," by specifying the use of a particular portion of the computer's firmware. *Ancora Techs.*, 908 F.3d at 1348–49. *Finjan* and *SRI Int'l* similarly find that each includes a non-abstract improvement to computer technology. *Finjan*, 879 F. 3d at 1305 ("[T]he method of claim 1 employs a new kind of file that enables a computer security system to do things it could not do before'"); *SRI Int'l*, 930 F.3d at 1303–04 ("[T]he representative claim improves the technical functioning of the computer and computer networks by reciting a specific technique for improving computer network security."). While Patent Owner argues that the claims include "a payment card free of fixed payment information that

can generate a dynamic number at the time of the transaction" and "an electronic device that can generate a limited-use payment number," on this record and for the purposes of institution, we find that Petitioner has sufficiently shown that the claims are directed to an abstract idea in the realm of fundamental economic practices and commercial or legal interactions.

2. Prong Two – Integration into a Practical Application

Turning to the second prong of the "directed to" test, Petitioner argues that the claim 1 (along with the balance the of the challenged claims) does not recite an improvement to technology that integrates the technology into a practical application. Pet. 29–30. Patent Owner asserts that claim 1 imposes a meaningful limit on the judicial exception, because of the use of a "payment number-free card and an electronic device that generates a limited-use number." Prelim. Resp. 31–32. Patent Owner asserts that this is "a *new* way of performing a transaction . . . that works within the existing payment infrastructure." *Id.* at 32.

On the present record and for the purposes of institution, we determine that Petitioner has sufficiently shown that none of the recitations of claim 1 integrates the judicial exception as to "impose[] a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." Guidance at 53. That claims do not preempt all forms of the abstraction does not make them any less abstract. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) ("And that the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract."). The recitation of "a payment card device," "computing device," "processor," "memory," "wireless

interface," "touch screen user interface," "user-input device," "interface," and "payment card reader equipment" in claim 1 do not improve the functioning of a computer or another technological field and instead are simply used as tools to implement the abstract idea identified above. *See Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017) (using a computer as a tool to process an application for financing a purchase); *Affinity Labs of Tex., LLC v. DirecTV, LLC*, 838 F.3d 1253, 1262 (Fed. Cir. 2016) ("[T]he claims are directed not to an improvement in cellular telephones but simply to the use of cellular telephones as tools in the aid of a process focused on an abstract idea.").

3. Step 2B – "significantly more"

Having preliminarily concluded that the claim 1 recites judicial exceptions and are not integrated into a practical application, we turning to the second step of the *Alice* analysis and determine whether the claim 1 includes an "inventive concept," i.e., whether there is an element or combination of elements sufficient to ensure that the claim in practice amounts to significantly more than the abstract idea itself. *See Alice*, 573 U.S. at 217–18 (quoting *Mayo Collaborative Servs.*, 566 U.S. at 72–73).

Petitioner argues that no additional limitations beyond the judicial exception are present in claim 1. Pet. 31–33. Specifically addressing "limited-use card payment information," Petitioner argues this could be any information used in place of a payment number, which it argues is conventional. *Id.* at 22–23, 31–33 (citing Ex. 1004 ¶¶ 67, 96, 103; Ex. 1006 ¶¶ 7, 21, 29; Ex. 1017, 196, 202–205; Ex. 1019, 62–63, 70, 113; Ex. 1020, 90, 98, 112, 122; Ex. 1030, 5; Ex. 1003 ¶¶ 63–66, 76–81, 104–109).

Patent Owner, argues, however, that the limited-use card payment information was not conventional. *Id.* at 34–35. Patent Owner argues that

Petitioner's references are disparate and do not establish that the technology was conventional. *Id.*

For the purposes of institution and on the present record, Petitioner has sufficiently shown with its references and testimony of Dr. Shamos that limited-use card payment information was conventional. Additionally, on the present record we determine that Petitioner has sufficiently shown that claim 1 amounts to nothing significantly more than instructions to apply the abstract idea using generic components, and, considered as an ordered combination, nothing is added that is not already present when the steps are considered separately. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (sequence of receiving, selecting, offering for exchange, display, allowing access, and receiving payment recited an abstraction); *Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378 (Fed. Cir. 2017) (holding that sequence of data retrieval, analysis, modification, generation, display, and transmission was abstract); *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017) (holding sequence of processing, routing, controlling, and monitoring was abstract).

4. Conclusion

For the reasons described above, on this record we have determined that Petitioner has demonstrated that it is more likely than not that at least one of the challenged claims is unpatentable as ineligible.

Our institution is on all claims and all grounds. *Cf. SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018); *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (indicating that a decision whether to institute an *inter partes* review "require[s] a simple yes-or-no institution

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choice respecting a petition, embracing all challenges included in the petition").

C. Ground 2: Indefiniteness of claims 1–19

Under 35 U.S.C. § 112(b), a patent specification "shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention." This is commonly referred to as the definiteness requirement.

The Board applies in post-grant reviews the same indefiniteness standard as used in federal courts and the U.S. International Trade Commission under *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014), and its progeny. USPTO Memorandum, Approach To Indefiniteness Under 35 U.S.C. § 112 In AIA Post-Grant Proceedings (Jan. 6, 2021).[10] Under *Nautilus*, "a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus*, 572 U.S. at 901. "[A] patent must be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them," but the present standard recognizes that "absolute precision is unattainable." *Id.* at 909–10 (internal quotation marks and brackets omitted). The definiteness requirement seeks to "ensure that the claims delineate the scope of the invention using language that adequately notifies the public of the patentee's right to exclude." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005). To do so does not require "absolute clarity" or precision in claim language; this

[10] Available at https://www.uspto.gov/sites/default/files/documents/IndefinitenessMemo.pdf

court has ruled that claims are not invalid for indefiniteness unless they are "'not amenable to construction' or 'insolubly ambiguous.'" *Id.*

Petitioner argues that claims 1–19 are indefinite, providing specific arguments with respect to claim limitations present in claims 1, 4–9, 12, 13, 15, 17, and 19. Pet. 39–45. Patent Owner provides contrary arguments relating to these claims. Prelim. Resp. 36–44.

We address claims 1 and 6, but again note that our institution is on all asserted grounds in the Petition.

1. Claim 1

Petitioner argues that claim 1 is indefinite because element 1.11, which recites that "a card issuer authority is operable to reject as invalid a transaction attempt outside of its limitations of use," and it is not clear whether "its" refers to the "card issuer authority," the "transaction attempt," the "limited-use card payment information" or some other component or entity. Pet. 39. Additionally, as elements 1.11 and 1.12 of claim 1 each recite "a card issuer authority" (emphasis added), Petitioner argues that "the card issuer authority" in element 1.13 "lacks clear antecedent basis." *Id.* at 40.

Patent Owner argues that "read in context" the term "its" in the phrase, "its limitation of use," in claim element 1.11 is clear and refers to "limited-use card payment information." Prelim. Resp. 36. Patent Owner argues that no other theory makes sense in the context of the invention—"[n]either the claim nor the specification refer to a limitation of use on the card issuer authority or a transaction attempt." *Id.* Patent Owner acknowledges that the claim twice recites "a card issuer authority"—in the first instance, one that rejects a transaction (claim element 1.11) and in the second instance, one that validates a transaction (claim element 1.12). *Id.* at

38. Patent Owner contends, however, that claim element 1.13 refers only to the second instance, one that validates the transaction (claim element 1.12). *Id.*

While we do not make a determination regarding whether Petitioner has shown it is more likely than not that Claim 1 is indefinite based on the word "its" in claim element 1.11, we note that, on the present record, limitations of use are described with respect to a "limited-duration credit card number" (Ex. 1001, 11:11–16) and that the specification further describes that "if an expired limited-duration credit card is attempted to be used for a transaction, . . . an automatic notification is able to be made to a credit authority . . . to prevent transactions on the account" (*id.* at 11:16–21). As we institute on all claims and all grounds, we invite the parties to address, to the extent provided for by our rules, whether this claim, in light of the specification and prosecution history, inform one of ordinary skill in the art with reasonable certainty about its scope. *Nautilus*, 572 U.S. at 901.

With respect to "the card issuer authority" of element 1.13, we again do not make a preliminary determination whether it is more likely than not that this recitation makes the claim indefinite. To the extent provided for by our rules regarding the proper scope of briefing, the parties are welcome to address this or other relevant issues.

2. Claim 6

Among other arguments, Petitioner argues that the term "valid range of device limitations" in the limitation that "a card issuer authority is operable to reject as invalid a device transaction used outside of a valid range of *device* limitations" (emphasis added) is indefinite because it is unclear whether the "payment card device," computing device," or "user-input device" is being referred to as the *device*. Pet. 42. Patent Owner

responds that "the *only* device in the claim that conveys payment information" is the "computing device." Prelim. Resp. 40. However, element 1.12 of claim 1 describes the card issuer authority validating a card payment information as authentic when "received from at least one of: an authenticated users payment card; and an authenticated users computing device." Ex. 1001, 20:10–13.

With respect to this term, on the present record and for the purposes of institution, we determine that Petitioner has shown that it is more likely than not that claim 6, which depends from claim 1, is indefinite.

D. Ground 3: Lack of enablement of claims 12, 13, and 17

Petitioner argues that claims 12 and 13 are invalid as lacking enablement, because these claims, according to Petitioner, require "the computing device to both reject and accept the same user authorization." Pet. 46. Petitioner argues that claim 17 is not enabled because it "requires the user to approve and deny the same payment transaction." *Id.* Patent Owner puts forth an interpretation of these claims where they do not require simultaneous actions, but instead recite that the computing device is "operable to both reject and accept a user authorization" and the touch-screen display is "'operable to' accept both a user approval and a denial." Prelim. Resp. 41–44.

To be enabling, "the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" *MagSil Corp. v. Hitachi Global Strorage Techs., Inc.*, 687 F.3d 1377, 1380–81 (Fed. Cir. 2012).

We note that Petitioner argues that claims 12, 13, and 17 are indefinite and therefore "not amenable to construction" and Patent Owner contests this. Pet. 43–44; Prelim. Resp. 41–43. With respect to enablement, the parties'

differences necessarily relate to the proper claim construction of the claims. *See AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1241 (Fed. Cir. 2003) ("Because a patent specification must enable the full scope of a claimed invention, an enablement inquiry typically begins with a construction of the claims."). As we institute on all claims and all grounds, the parties may address claim construction in their post-institution submissions to the extent allowable by our rules.

E. Ground 4: Lack of written description support for claims 20–27

To satisfy the written description requirement under 35 U.S.C. § 112(a), the specification must "reasonably convey[] to those skilled in the art that the inventor had possession" of the claimed invention as of the filing date based on an "objective inquiry into the four corners of the specification." *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351–52 (Fed. Cir. 2010) (en banc). An adequate description does not require any particular form of disclosure or that the specification recite the claimed invention *in haec verba*, but must do more than render the claimed invention obvious. *Id.* at 1352.

The written description inquiry is a question of fact, is context specific, and must be determined on a case-by-case basis. *Id.* at 1351. Factors used to evaluate the sufficiency of a disclosure include: 1) "the existing knowledge in the particular field"; 2) "the extent and content of the prior art"; 3) "the maturity of the science or technology"; and 4) "the predictability of the aspect at issue" (the "*Ariad* factors"). *Id.*

Petitioner argues that claims 20–27 lack written description support, because claim 20's recitation that the computing device "is operable to . . . display . . . issuer-provided payment information, associated with, but not depicted on, the payment card device" is not supported by written

description in the specification or original claims as filed. Pet. 47–48 (citing Ex. 1003 ¶¶ 172–174).

Patent Owner makes three arguments regarding support for the disputed recitation. Prelim. Resp. 45–50. First, Patent Owner argues that Figures 8A, 9, and 11 support this recitation. Prelim. Resp. 45–47. Patent Owner notes that Figures 8A and 9 each show a computing device that includes a static number associated with the payment card device. *Id.* (citing Ex. 1001, Figs. 8A, 9). Patent Owner additionally argues that the specification discloses a payment card device free of fixed payment numbers. *Id.* at 46 (citing Ex. 1001, Fig. 11, 11:43–46, 12:56–13:1). Patent Owner contends that the display on the computing devices of Figures 8A and 9 supports the disputed limitation "when used in combination with the disclosed payment number-free card." *Id.* at 46–47.

Patent Owner additionally cites claim 11 of U.S. Patent No. 10,628,820 ("the '820 patent," Ex. 2033), which was incorporated by reference into the '286 patent's specification. *Id.* at 47–48 (citing Ex. 1001, 1:6–8). Patent Owner argues that claim 11 of this patent supports the disputed limitation because it describes the conveyance of generated payment information via a display of a personal computing device, in a system where a separate thin payment device "compris[es] no fixed payment numbers visible thereon." *Id.* (citing Ex. 2033, 22:10–35).

Lastly, Patent Owner argues that the '891 provisional application also supports the disputed limitation. *Id.* at 48–50. Patent Owner contends that the provisional provides for a credit card device that generates payment information at the instant the card is being used, and that has no fixed number depicted on the device. *Id.* at 48–49 (citing Ex. 1012 ¶ 14). Patent Owner further notes that the provisional describes the use of the credit card

to make online purchases by connecting to a personal computer. *Id.* at 49 (citing Ex. 1012 ¶ 17). Patent Owner contends that "in March 2013, at the time the provisional was filed, a person of ordinary skill would have understood that paying for goods online using the traditional 'credit card infrastructure' would involve typing in a payment number, such that it gets displayed on the personal computer." *Id.* Thus, Patent Owner concludes, the '891 provisional supports a uniquely generated number being produced by the credit card but displayed on the personal computer. *Id.* at 49–50.

On the present record, and for the purposes of institution, we determine that it is more likely than not that claim 20 (and its dependent claims) lack written description support in the '286 patent specification and claims as filed, the '820 patent, and the '891 provisional.

With respect to the asserted support provided by Figures 8A and 9 (for the computing device) and Figure 11 (for the payment card device), the specification indicates that each of these is an independent "multi-function electronic device," and, on the present record, we see no indication that the multi-function electronic device of Figure 11 is usable in the same system with the multi-function electronic devices of Figures 8A and 9. *See* Ex. 1001, 11:25–51; *see also id.* at 3:50–52, 3:56–59, 3:64–67.

With respect to the asserted support in the '820 patent's claims, Patent Owner argues that the computing device generates and displays the limited use number, which is "based on the card device payment account information," and which in turn is "associated with the issuer-provided payment information." Prelim. Resp. 47–48 (citing claim 11 of the '820 patent, Ex. 2033:10–35). But the disputed limitation recites that "issuer-provided" payment information is received and displayed, which, on the present record, does not appear to be supported in claim 11 of the '820

patent. Ex. 2033, 22:10–35. Additionally, while claim 11 does recite that "no fixed payment numbers" are visible on the "thin payment device," there is no disclosure regarding the lack of a visible display of the complete payment information or limited-use payment information on that thin payment device. *Id.*

Lastly, as discussed above, Section II.B, the '891 provisional describes the online use of the card through a connection to the personal computer via RFID or near field technology to generate the credit card number. Ex. 1012 ¶ 17. Where, as disclosed, the payment card is "equipped with a means for communicating with the USB port on the computer in connection with making the online purchases," contrary to Patent Owner's argument, a user would not have necessarily had to type in a payment number that would be displayed on the computer. *Id.*

On this record, and for the purposes of institution, we determine that Petitioner has shown it is more likely than not that claim 20 (and its dependent claims) do not have adequate written description support.

V. CONCLUSION

We determine that Petitioner has demonstrated that it is more likely than not that at least one of the challenged claims is unpatentable. Accordingly, we institute a post-grant review of all challenged claims on all asserted grounds.

VI. ORDER

It is

ORDERED that, pursuant to 35 U.S.C. § 324(a), a post-grant review of claims 1–27 of the '286 patent is instituted; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 324(d) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this Order.

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