

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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**SAMSUNG ELECTRONICS CO., LTD.,**  
**Petitioner**

**v.**

**CARDWARE INC.,**  
**Patent Owner**

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Case No. PGR2023-00012  
Patent No. 11,328,286

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**CARDWARE'S PATENT OWNER PRELIMINARY RESPONSE**

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## PATENT OWNER'S EXHIBIT LIST

| No.       | Exhibit Description                                                                                                                                                                                                                                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2001      | Docket Control Order for <i>CardWare Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 22-cv-00141-JRG (E.D. Tex.)                                                                                                                                                                                                                   |
| 2002      | Median Time-to-Trial for Patent Cases before Judge Gilstrap for cases filed on or after January 1, 2019 (Source: DocketNavigator; as of May 1, 2023)                                                                                                                                                                                    |
| 2003      | Order Denying Motion to Stay in <i>CardWare Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 22-cv-00141-JRG (E.D. Tex.)                                                                                                                                                                                                            |
| 2004      | United States District Courts National Judicial Caseload Profile as of December 31, 2022, <i>available at</i> <a href="https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_distprofile1231.2022.pdf">https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_distprofile1231.2022.pdf</a> (retrieved May 2, 2023) |
| 2005      | Letter from D. Valent to M. Berkowitz, dated April 18, 2023                                                                                                                                                                                                                                                                             |
| 2006      | [RESERVED]                                                                                                                                                                                                                                                                                                                              |
| 2007      | Declaration of William C. Easttom II Ph.D., D.Sc., May 15, 2023                                                                                                                                                                                                                                                                         |
| 2008-2014 | [RESERVED]                                                                                                                                                                                                                                                                                                                              |
| 2015      | <i>Introduction to Touch Sensors   Working, Capacitive, and Resistive</i> , ElectronicsHub (Apr. 20, 2019), <a href="https://www.electronicshub.org/touch-sensors/">https://www.electronicshub.org/touch-sensors/</a> .                                                                                                                 |
| 2016      | <i>How Does a Touch Sensor Work?</i> , Teach Engineering, <a href="https://www.teachengineering.org/lessons/view/umo_sensorswork_lesson03">https://www.teachengineering.org/lessons/view/umo_sensorswork_lesson03</a> (last updated June 14, 2021).                                                                                     |
| 2017      | Touch Screen Technology (Spring 2015) <i>available at</i> <a href="https://inst.eecs.berkeley.edu/~ee16a/sp15/Lecture/Lecture_9.pdf">https://inst.eecs.berkeley.edu/~ee16a/sp15/Lecture/Lecture_9.pdf</a> .                                                                                                                             |
| 2018      | Ian Maxwell, An Overview of Optical-Touch Technologies, 23 INFORMATION DISPLAY 26 (Dec. 2007) <i>available at</i> <a href="https://walkermobile.com/December_2007_ID_Overview_of_Optical_Touch_Technologies.pdf">https://walkermobile.com/December_2007_ID_Overview_of_Optical_Touch_Technologies.pdf</a> .                             |
| 2019      | <i>Touchscreen Issues on a Galaxy Phone</i> , Samsung, <a href="https://www.samsung.com/us/support/troubleshooting/TSG01213974/">https://www.samsung.com/us/support/troubleshooting/TSG01213974/</a> (last visited May 15, 2023).                                                                                                       |
| 2020      | Excerpt From Andrew Butterfield and John Szymanski, <i>Dictionary of Electronics and Electrical Engineering (Oxford Quick Reference)</i> (Kindle Locations 22202-22205). OUP Oxford.                                                                                                                                                    |
| 2021      | Omosola Odetunde, Nadja Rhodes, Levirt Griffin III, <i>History – The Difference between RFID and NFC</i> , Stanford (2011),                                                                                                                                                                                                             |

| No.  | Exhibit Description                                                                                                                                                                                                                                                                                                                     |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | <a href="https://cs.stanford.edu/people/eroberts/cs181/projects/2010-11/NFCChips/difference.html">https://cs.stanford.edu/people/eroberts/cs181/projects/2010-11/NFCChips/difference.html</a> .                                                                                                                                         |
| 2022 | Tan Nguyen, <i>Near Field Communication (NFC)</i> , Carnegie Mellon University (Spring 2019), available at <a href="https://www.andrew.cmu.edu/course/14-760-s20/applications/ln/14760-119.pdf">https://www.andrew.cmu.edu/course/14-760-s20/applications/ln/14760-119.pdf</a> .                                                        |
| 2023 | <i>Facility Definition &amp; Meaning</i> , Merriam-Webster, <a href="https://www.merriam-webster.com/dictionary/facility">https://www.merriam-webster.com/dictionary/facility</a> (last retrieved May 15, 2023).                                                                                                                        |
| 2024 | <i>Definition of <b>facility</b> noun</i> from the <i>Oxford Advanced Learner's Dictionary</i> , Oxford Learner's Dictionaries, <a href="https://www.oxfordlearnersdictionaries.com/definition/english/facility">https://www.oxfordlearnersdictionaries.com/definition/english/facility</a> (last retrieved May 15, 2023).              |
| 2025 | <i>Biometric Sensor Chips Information</i> , GlobalSpec, <a href="https://www.globalspec.com/learnmore/semiconductors/sensor_ic/biometric_sensors">https://www.globalspec.com/learnmore/semiconductors/sensor_ic/biometric_sensors</a> (last retrieved May 15, 2023).                                                                    |
| 2026 | Xiongwu Xia & Lawrence O’Gorman, <i>Innovations in fingerprint capture devices</i> , 36 <i>Pattern Recognition</i> 361 (2002).                                                                                                                                                                                                          |
| 2027 | Excerpt from Anil Jain et al., <i>Introduction to Biometrics</i> (Kindle Edition), (Springer New York, NY 2011).                                                                                                                                                                                                                        |
| 2028 | Nicholas Wettels et al., <i>Biomimetic Tactile Sensor Array</i> , 22 <i>ADVANCED ROBOTICS</i> 829 (2008).                                                                                                                                                                                                                               |
| 2029 | Jun-Chieh Liu et al., <i>A CMOS Micromachined Capacitive Sensor Array for Fingerprint Detection</i> , 12 <i>IEEE SENSORS J.</i> 1004 (2012).                                                                                                                                                                                            |
| 2030 | G. Olavarrieta Fritsche et al., <i>A simple fingerprint sensor based on ridge conductivity</i> , in <i>Proceedings of the Third International Workshop on Design of Mixed-Mode Integrated Circuits and Applications</i> (Cat. No. 99EX303 (July 28, 1999).                                                                              |
| 2031 | Mohammad M. R. Chowdhury and Josef Noll, <i>Service Interaction through Role based Identity</i> , in <i>Proceedings of Wireless World Research Forum Meeting (Vol. 17)</i> (2006).                                                                                                                                                      |
| 2032 | Stuart Frisch, <i>Privacy Impact Assessment for the Personal Identity Verification (PIV) Card System</i> , U.S. Department of Justice, Justice Management Division (Mar. 24, 2011) available at <a href="https://www.justice.gov/d9/opcl/docs/pia-pivcard-hspd12.pdf">https://www.justice.gov/d9/opcl/docs/pia-pivcard-hspd12.pdf</a> . |

## **I. INTRODUCTION**

On January 20, 2023, Samsung Electronics Co., Ltd. (“Samsung” or “Petitioner”) filed a Petition requesting post grant review of claims 1-27 (“Challenged Claims”) of U.S. Patent No. 11,328,286 (“the ’286 Patent”) (Ex. 1001), entirely on obviousness Grounds. Paper 3 (“Petition” or “Pet.”). On February 14, 2023, the Board issued a Notice of Filing Date Accorded for the Petition and set the time for filing Patent Owner’s Preliminary Response. Paper 6.

The Board should deny institution of the Petition for several reasons.

As an initial matter, the ’286 Patent is entitled to its provisional filing date, which is indisputably pre-AIA. Accordingly, the ’286 Patent is simply not eligible for post-grant review.

Even assuming that the ’286 Patent is PGR eligible, Petitioner fails to meet its burden of demonstrating that its prior art references render obvious any of the Challenged Claims. Petitioner’s Grounds 1A through 1G, which rely on at least Smith, Kobylkin and Gomez, each suffer from at least several major flaws, including missing key limitations and lacking a motivation to combine or reasonable expectation of success.

Institution should thus be denied.

## II. THE '286 PATENT

When David Wyatt conceived of the invention claimed in the '286 Patent, over a decade ago, there were “several different types of credit cards available in the marketplace.” Ex. 1001, 1:40-41.

As the patent explains:

A first type of credit card is a conventional, standard piece of plastic with a magnetic strip, which is readily available and in wide commercial use. The advantage of this first type of credit card is that a large portion of the infrastructure for credit card transactions is built around this type of card, and consequently such a card works in a wide array of vendors' credit card machines, automated teller machines (ATMs), and other devices that support the present credit card and banking infrastructure.

Ex. 1001, 1:41-49.

The '286 Patent also recognizes that “[s]ecurity is an area of concern for credit card holders, as the small form factor makes theft quite easy, and additionally there are many ways for a malicious third-party to record the account number of a credit card in order to later make fraudulent transactions on the account.” *Id.*, 9:63-67. The claimed invention “address[es] security concerns of a credit card owner on several fronts” while remaining compatible with the existing credit card infrastructure. *See id.*, 9:67-10:2.

For example, instead of a conventional credit card device that bears all of the static payment information necessary for completing a card-present or online transaction printed on it, the '286 Patent has a credit card device with no fixed numbers on it at all. The '286 Patent teaches an “electronic credit-card-like multifunction electronic device that has no fixed payment information,” *e.g.*, as shown in Figure 11 below. Ex. 1001, 3:63-67; *id.*, 11:43-56 (“Effectively, embodiments of the present disclosure provide a multi-function electronic device that has no fixed number, as illustrated in FIG. 11, and therefore the account cannot be compromised. Only the number generated at the instant of the credit card transaction matters.”).

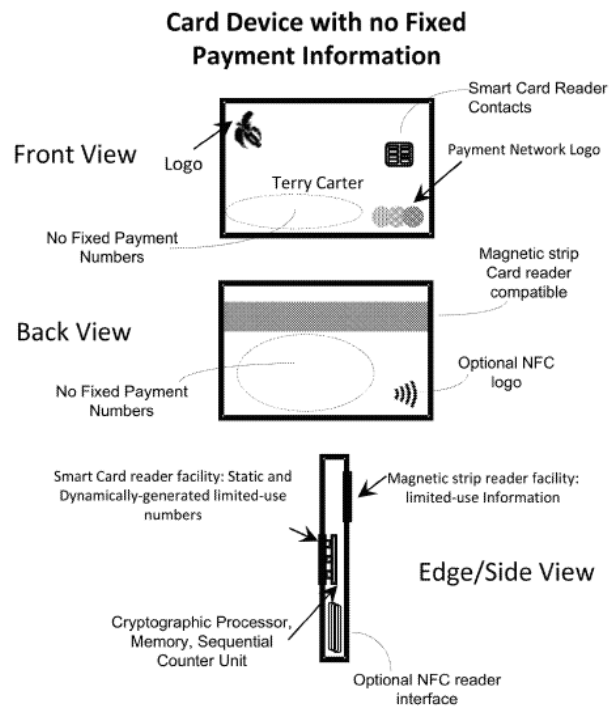


**Fig 11**

Despite this, the card device is able to perform online transactions by communicating with a “computer or other device” using wired and/or wireless forms of communication between the card and devices, via connection means 570 for communicating with the USB port “via any of the connection means available to the multi-function electronic device (USB 270, NFC 260, and RFID 265).” *See* Ex. 1001, 11:59-64.

As another example, the '286 Patent teaches a “limited-use credit card number, enhancing the security of the credit account by substantially negating the possibility of a theft of the credit card number used to perform the transaction leading to account compromise.” Ex. 1001, 13:8-17; FIG. 10. In one example, the device produces a “limited-duration credit card number” used for performing transactions. *Id.*, 10:4-7. In contrast to traditional credit cards that displayed and used a completely static number in transactions, the credit card device of the '286 Patent may have “no fixed numbers” and instead is “able to [generate a number] according to ... information regarding the facility performing the transaction,” such as “the facility that is reading the card.” *Id.*, 10:64-11:47.

In addition, the '286 Patent teaches a system for completing an online transaction, which includes the device that generates a limited-use payment information for use in online payment transactions. Ex. 1001, 12:56-13:26, FIGs. 5, 10 (both below). The electronic device generates the limited-use payment number

and conveys such number either to a user for use in an online transaction, including via a wired connection with a computing device, a wireless connection with such computing device, or a display for entry into such computing device. *See id.*

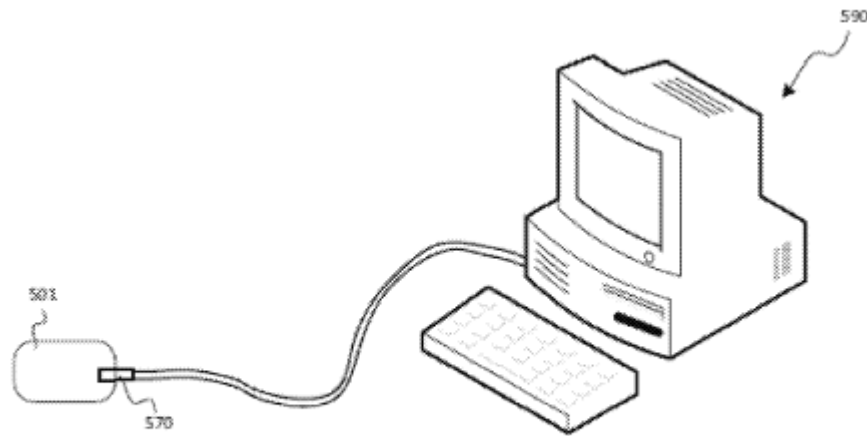


FIG. 5

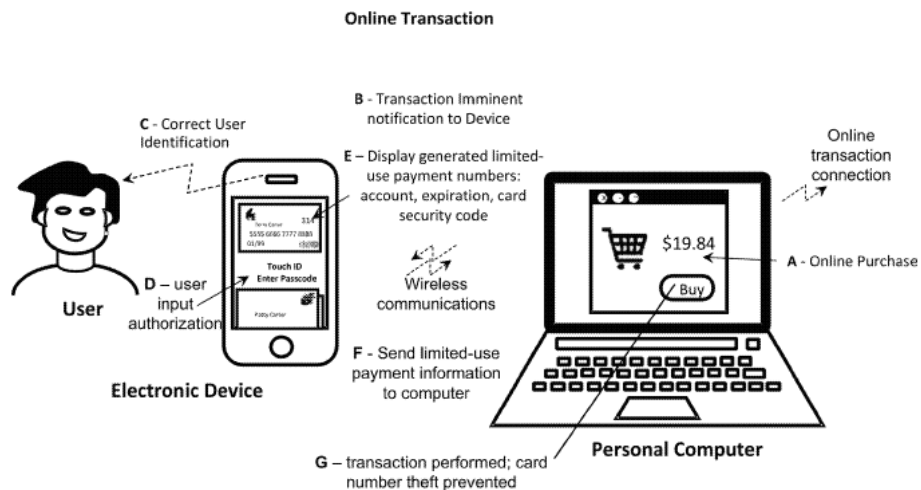


Fig 10

### III. PETITIONER’S PURPORTED PRIOR ART

Petitioner presents one set of grounds: (i) Grounds 1A through 1G, based on the combination of U.S. Patent App. Pub. No. 2013/0232083 (“Smith”), U.S. Patent App. Pub. No. 2013/0166441 (“Kobylkin”), and U.S. Patent No. 9,600,808 (“Gomez”), alone or in combination with one of two additional references.<sup>1</sup> As summarized below, Kobylkin, Smith and Gomez—alone and in combination with other references—fail to disclose key limitations and Petitioner has failed to demonstrate that a POSITA would have been motivated to, and had a reasonable expectation of success in combining the references. Additional reasons why the Grounds fail are also provided below in Section IV.

#### A. Smith

Smith describes techniques for conducting contactless payment transactions with a mobile device. Ex. 1004, [0002]. Smith discloses a mobile device that maintains “mobile cloud accounts” in a virtual wallet, where any of the mobile cloud accounts can be used to conduct a contactless transaction. Ex. 1004, [0032]-[0037]; *see also id.*, [0029] (“Transactions that may be performed via a payment network may include product or service purchases, credit purchases, debit transactions, fund

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<sup>1</sup> Only the references relevant to arguments in this Preliminary Response are summarized here.

transfers, account withdrawals, etc.”). “A mobile cloud account may include a mobile cloud account number (MCA), which may be associated with a real card account number (RCA).” *Id.*, [0034]. “The RCA may correspond to a payment account issued to the user by an issuer 112,” and “[t]he MCA may be mapped to the RCA such that the user may conduct a financial transaction using the MCA for funding of the financial transaction, and the funds may be supplied by the payment account corresponding to the RCA.” *Id.* “As a result, the user may be able to conduct a payment transaction using the mobile device 102 without storing the RCA, thereby reducing the potential for fraud.” *Id.*

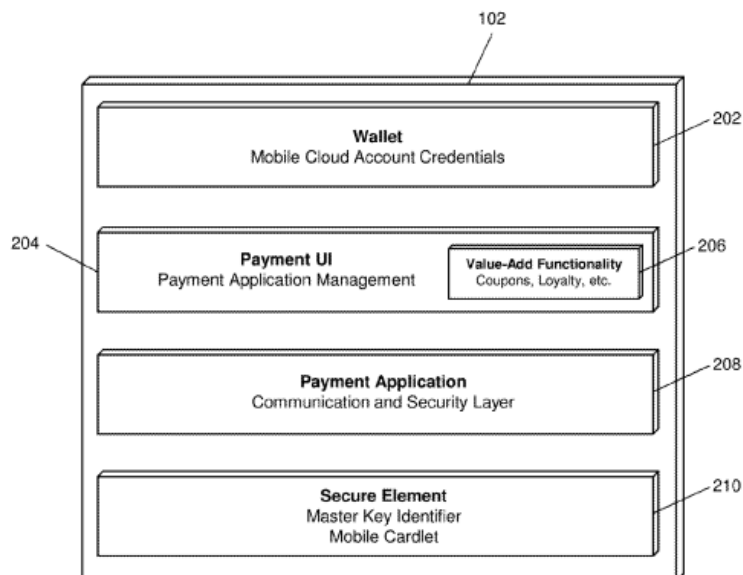
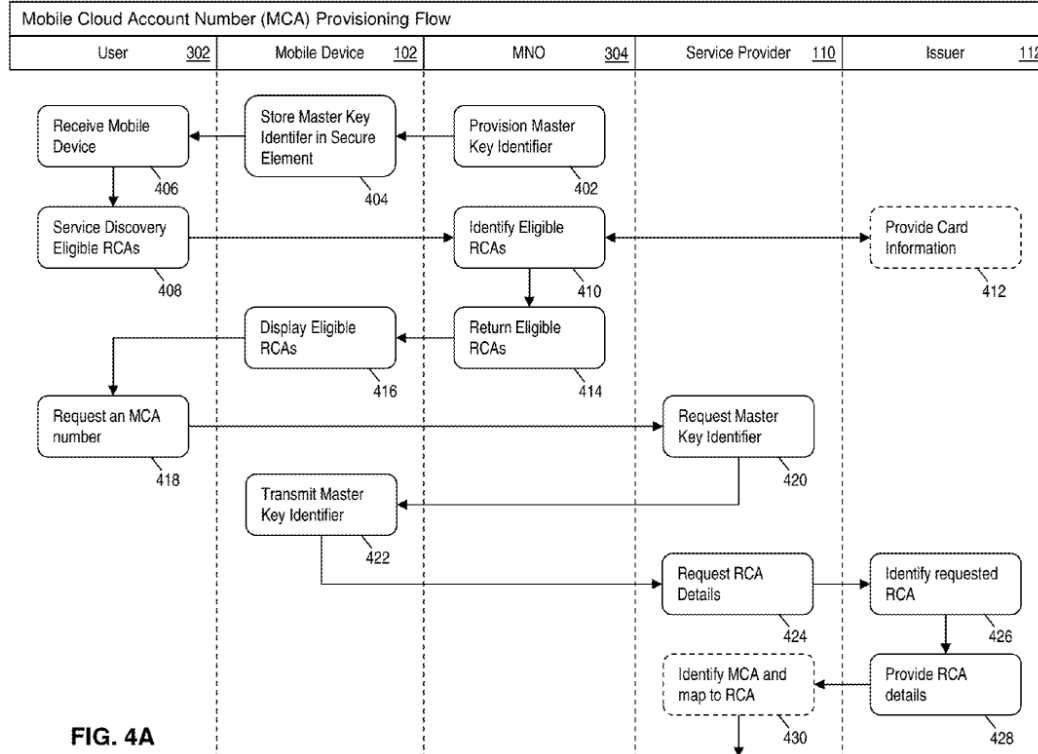


**FIG. 2**

As shown in Figure 2 above, Smith discloses a mobile device for conducting contactless payment transactions using the MCA. *See* Ex. 1004, [0041]. The mobile device includes a secure element that stores “a master key identifier and a mobile

cardlet” in separate portions therein. *Id.*, [0043], [0050]-[0051]. The master key identifier “may be unique to the mobile device” and “may be provisioned to the secure element... by the manufacturer of the mobile device... at the time of the manufacture” or “maybe provisioned to the mobile device... and stored in the secure element... via over-the-air (OTA) processing.” *Id.*, [0044], [0049], [0051], [0054]. The mobile cardlet may also be provisioned physically or via OTA processing but “may contain no payment credentials upon provisioning to the mobile device” and only later “may be configured to store mobile cloud account data for the transmission of payment credentials including the [MCA] to the contactless terminal[.]” *Id.*, [044], [0045], [0049].



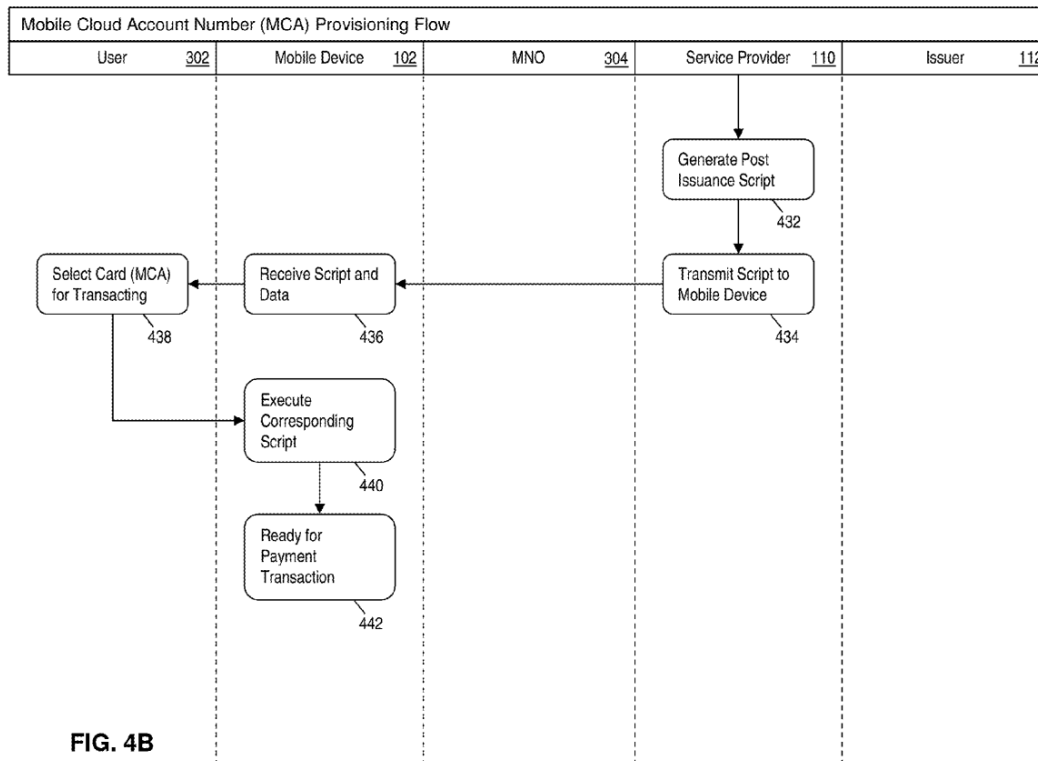


**FIG. 4B**

*Id.*, FIG. 4A, 4B.

As shown in Figures 4A and 4B (reproduced above), Smith discloses that a user may submit a request for MCA for an eligible RCA to a service provider via their mobile device. Ex. 1004, [0056]. The service provider will then request master key identifier from the secure element of the user's mobile device and RCA-related information from the issuer and them to identify an MCA and map the MCA to the RCA. *Id.*, [0056]-[0057]; *see also id.*, [0079]-[0087], Fig. 9 (describing the process of a service provider mapping an MCA to an RCA). The service provider will then issue a script to the mobile device that causes the mobile device to transmit the mobile cloud account data (including the MCA) into the mobile cardlet saved inside the secure element. *Id.*, [0058]-[0059].

## **B. Kobylkin**

Kobylkin describes “[a]n instant disposable payment card [having] a quick response (QR) code,” as shown in Figure 5 (below). Ex. 1005, Abstract, [0011]; *id.*, [0032] (“The instant disposable payment card can be a disposable card printed on paper or any other material.”). The QR code is associated with user’s payment provider account such that “product purchased with the instant disposable payment card can readily be paid for via the payment provider account (via the instant disposable payment card account).” *Id.*, [0030]; *see also id.* [0038] (“The QR code can contain information about... a user account, a payment provider, [or] a code or card identifier”). “The user can activate or fund the instant disposable payment by scanning the QR code, such as with a user’s smart phone,” and the user can request to “connect an existing payment provider customer account to the card account. *Id.*, [0031]. Because the card account number is encoded into the QR code, after activating and/or funding “[t]he user can [then] use the card to make payments, such as by a merchant scanning the QR code.” *Id.*, [0031]-[0032]; *see also id.*, [0035] (disclosing that a merchant can “scan the QR code to accept payment from the user for goods or services”).

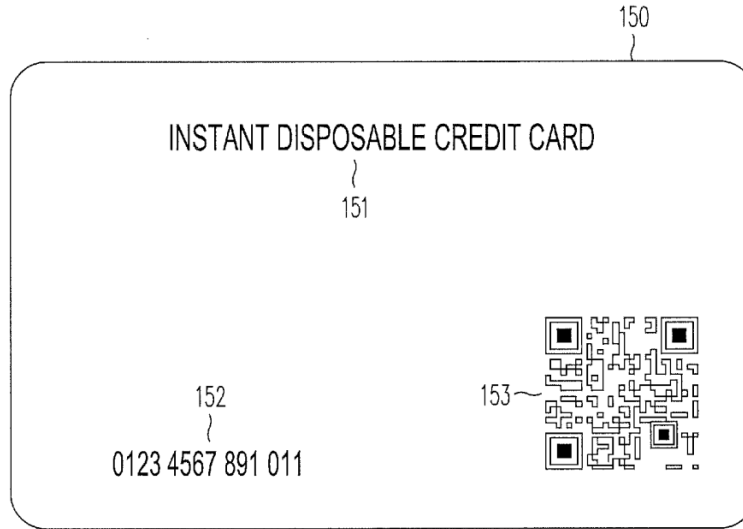


FIG. 5

### C. Gomez

Gomez describes a payment card that incorporates a static “EPIC account number” linked to a user’s standard credit/debit card number. The “EPIC account number” is used in payment transactions in place of the user’s standard credit/debit card number, and is sent to a merchant with an “authentication cryptogram” that is generated at the time of a transaction. Ex. 1017, 5:48-6:22.

Gomez depicts various embodiments of its EPIC cards in Figures 9-14 (below; fronts depicted in Figures 9, 11, 12, 13, and 14 and backs in Figures 10 and 12). The EPIC account numbers are shown in red boxes, below, “as with many traditional payment cards.” Ex. 1017, 11:19-27, 11:63-66, 12:41-45, 13:5-10, 13:14-19, 13:34-39; *see also id.*, 5:7-10 (disclosing that, in an exemplary system, payment card “information [] can be gleaned from a payment card either by visually observing

information printed or embossed on the card, or by reading the magnetic stripe”).

“A fully static (16-digit account number) and (3-digit) security code,” as with traditional cards, “are preferably utilized.” *Id.*, 11:49-52. In other words, the EPIC account number is hard-encoded onto the payment card.

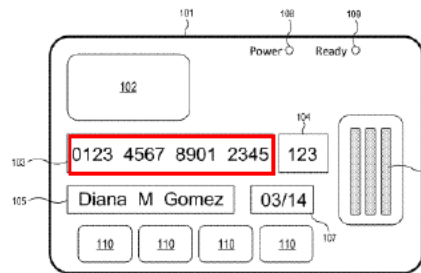


FIG. 9

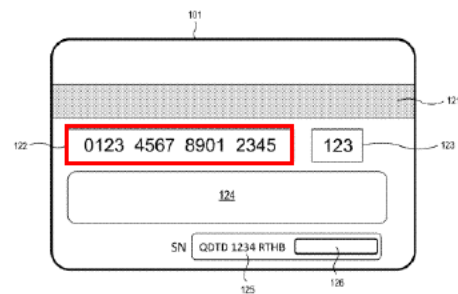


FIG. 10

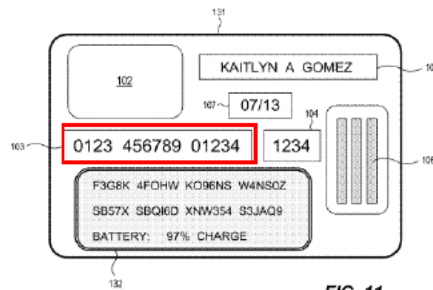


FIG. 11

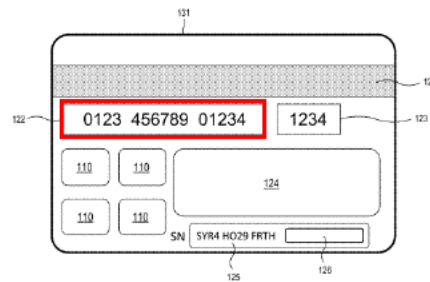


FIG. 12

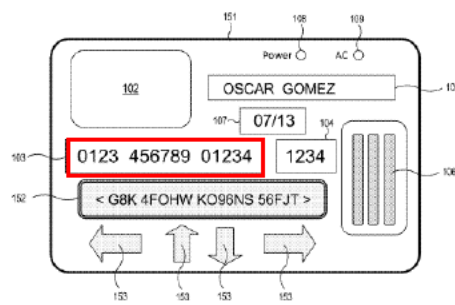


FIG. 13

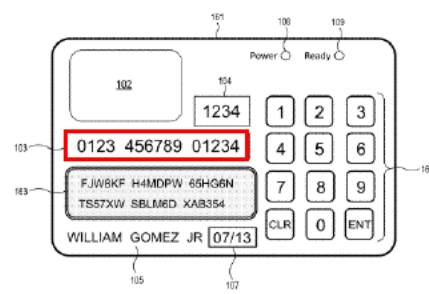


FIG. 14

According to Gomez, when a card holder wishes to complete a transaction, the card holder “swipes the payment card through a POS terminal at the merchant

just like a traditional magnetic stripe payment card,” and the information such as the public identifying number, is ““left behind”” and “readily observable.” Ex. 1017, 5:32-40; *see also id.*, 13:63-65 (“the payment card identification [is] visible and left behind after a transaction”).

#### **IV. CLAIM CONSTRUCTION**

For the purposes of this Preliminary Response only, Patent Owner believes that the claims should carry their plain and ordinary meaning. In some instances, Patent Owner believes that Petitioner ignores or is simply incorrect about the plain and ordinary meaning of claim terms. Patent Owner’s explanations about those issues are contained within the body of the arguments set out below.

#### **V. LEVEL OF ORDINARY SKILL IN THE ART**

For the purposes of this Preliminary Response only, Patent Owner does not dispute Petitioner’s assertion that a person of ordinary skill in the art as of the Critical Date (a “POSITA”) 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 technology, where graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.

## VI. ARGUMENT

### A. The '286 Patent Is Not Subject To PGR

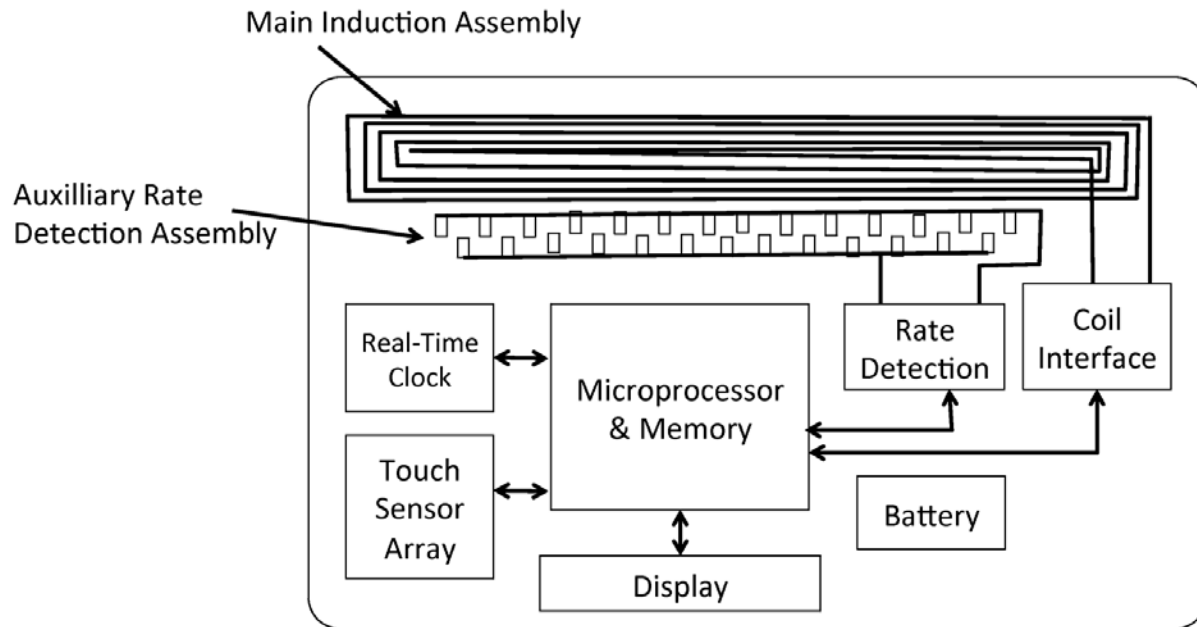
Petitioner acknowledges that, as a matter of law, the '286 Patent is not eligible for post-grant review unless it contains or contained a claim that lacks written description and enabling support in a priority application filed before March 16, 2013. It is Petitioner's burden to show this. *One World Techs., Inc. v. Chevron (HK) Ltd.*, PGR2020-00061, 2021 WL 707891, at \*2 (PTAB Feb. 23, 2021), Paper 19; *Mylan Pharms. Inc. v. Yeda Res. & Dev. Co.*, PGR2016-00010, Paper 9 at 10 (PTAB Aug. 15, 2016) (holding that the ultimate burden of persuasion remains with a petitioner to demonstrate that the challenged patent is eligible for post-grant review).

There is no dispute that the '286 Patent claims priority to U.S. Provisional Patent Application No. 61/794,891 ("the '891 provisional") filed on March 15, 2013. Accordingly, the '286 patent is not eligible for PGR unless Petitioner can show that at least one claim is not entitled to claim priority to the '891 provisional. Petitioner identifies six limitations that it believes are not supported by the '891 provisional. Pet., 2-3. Petitioner has failed to meet its burden with respect to each limitation.

1. **Claim 3: "The system of claim 1, wherein the touch-screen user interface is operable to control an access of the card device for payment transactions at an NFC Card Reader facility, and is operable to enable and disable NFC payment transactions by the card device."**

Contrary to Petitioner's argument, the '891 provisional application supports the limitation of claim 3. Ex. 2007, ¶¶ 13-34.

The Figure in the '891 provisional shows an electronic payment device with a “touch sensor array” and a “display” coupled to a microprocessor and memory, as illustrated below.



Ex. 1012, 19 (Figure); Ex. 2007, ¶¶ 14-21.

Paragraph 16 of the '891 provisional explains that in one embodiment of the invention, a liquid crystal display (“LCD”) can be fitted onto the card so that it can have a display screen. Ex. 1012, 13 ([0016]). The “display can be used to ask the user a security question if an improper password is entered.” *Id.* Provisional claim 4 of the '891 provisional provides additional relevant disclosure and explains that the “device may incorporate a plurality of touch sensors . . . which may; allow user input of information, . . . to confirm/deny transaction information, . . . or with a

gesture across said sensor for the purpose lock/unlock or control access for transactions[.]” *Id.*, 16 (provisional claim 4); Ex. 2007, ¶¶ 22.

The ’891 provisional also explicitly discloses NFC payment transactions and interactions between a card device and an NFC Card Reader Facility. Paragraph 4 of the ’891 provisional recites, “One type of credit card in circulation employs radio frequency (‘RF’) identification where there is a *near field* radio frequency. These cards essentially have a low power RF antenna built into the card and when the cardholder passes the antenna in front of a reader comprising an RF field, there is enough power generated and reduced for the processor to *interact wirelessly with the receiving device.*” Ex. 1012, 9 ([0004]) (emphases added); *see also id.*, 13-14 ([0017]) (discussing “near field technology.”); Ex. 2007, ¶¶ 25-27. Accordingly, there should be little dispute that ’286 patent claim 3 is supported by the ’891 provisional. Petitioner and its expert seem to have simply overlooked the Figure in the ’891 provisional and the disclosure of provisional claim 4 (they make no mention of either), as well as the full disclosure of paragraph 4.

2. **Claim 5: “The system of claim 1, wherein the payment card device is absent a payment number information necessary for completing an online transaction, and wherein the information presented on an interface of said card device, are limited to an in-store merchant card reader facility use only.”**

Petitioner argues that the ’891 provisional does not disclose a payment card device “wherein the information presented on an interface of said card device, are

limited to an in-store merchant card reader facility use only,” as claimed in claim 5. Pet., 4. Not so. This is explicit in the ’891 provisional, which discloses (i) a payment card that does not have an account number printed on it, such that it lacks sufficient information printed thereon to perform online transactions; and (ii) that the payment card can generate payment information via an interface that is limited to use at an in-store merchant facility card reader facility, notwithstanding the lack of printed/visible account number information payment card that can. Ex. 2007, ¶¶ 35-39.

First, the Figure in the ’891 provisional discloses a card that lacks payment information, such that it cannot be used in an online store. *See* Ex. 1012, 19 (Figure); *id.*, 12-13 ([0014]) (“In one embodiment, the number on the front of the card can be a full or partial number . . . Effectively, a credit card can be created that has no fixed number and therefore cannot be stolen. Only the number generated at the instant the card is being used matters. Accordingly, unauthorized use of the card is nearly impossible because no transaction can be conducted with only the partial static part of the credit card number.”); Ex. 2007, ¶ 36.

Second, the ’891 provisional discloses that the card lacking payment information can still be used at an in-store merchant facility because it is capable of generating payment information at the time the card is read. Ex. 1012, 12 ([0014]) (“As the credit card is *being read by the machine*, part or all of the number may be

dynamically produced at the time the card is read.”); *id.* at 18 (Abstract) (“A system is described to allow said device to emulate behavior of a credit card ***when used in electronic credit card readers*** . . . Methods are also described . . . to generate a one-time credit card number ***when read by said card readers*** . . . .”) (emphasis added); *see also id.* at 12 ([0014]). Moreover, in some instances, “the number generated may be based on . . . the facility that is reading the card,” which is applicable to in-store transactions. These disclosures support ’286 patent claim 5. Ex. 2007, ¶ 37.

Petitioner cites a sentence in the ’891 provisional referencing “online” transactions. Pet., 4. But, Petitioner ignores the rest of the paragraph, which states that the card “could use RFID or near field technology so that it can ***connect to a personal computer*** and be used to ***uniquely*** generate a credit card number for online purchases.” Ex. 1012, 13-14 ([0017]). In other words, in the ’891 provisional, a personal computer is used for online transactions wherein it “uniquely generate[s] a credit card number for online purchases.” In other words, the information for online purchases is unique from that used for in-store transactions. Claim 5 of the ’286 patent requires that “information presented on an interface of said card device” is limited to use in an in-store merchant card reader facility. This remains supported notwithstanding the portion of Paragraph 17 cited by Petitioner, which references communication with a *separate* personal computer via RFID or near field

technology, and generation of “unique[]” online-specific payment information. *Id.*, 13-14 ([0017]); Ex. 2007, ¶¶ 38-39.

**3. Claim 6: “A system of claim 1, wherein the card issuer authority is operable to receive . . .”**

Petitioner argues that certain portions of claim 6 of the ’286 patent are not supported by the ’891 provisional, namely, generating a limited-use number from “a merchant,” “a facility information” and “information limited to said card device and said computing device.” Pet., 4-5. This is wrong. *See* Ex. 2007, ¶¶ 40-46.

Paragraph 14 of the ’891 provisional explicitly states that “the dynamic part of the number generated may be based on . . . *the facility that is reading the card.*” Ex. 1012, 12 ([0014]) (emphasis added). This could be a facility involved in the transaction generally, including a merchant conducting the transaction. *See* Ex. 2007, ¶¶ 41-44. Provisional claim 5 of the ’891 provisional further provides that “transaction identifiers” (*e.g.*, “a merchant” or “facility information”) can be used “to generate a limited-use number.” Ex. 1012, 16 (claim 5); *see* Ex. 2007, ¶ 45. Petitioner and its expert (who largely copies the Petition on this point) make no mention of paragraph 14 or provisional claim 5 of the ’891 provisional. *See* Pet., 4-5; Ex. 1003, ¶ 36

The ’891 provisional further provides support for the limitation “information limited to said card device and said computing device.” Specifically, provisional claim 5 provides that a “counter unit” “generates a sequential parameter when the

card is read by said credit card reader” and is combined with other information to generate a limited-use credit card number. Ex. 1012, 16 (provisional claim 5). While provisional claim 5 is directed to card-present (in-facility) transactions, paragraph 17 of the provisional specification provides an embodiment where the card can also communicate the limited-use number to a separate electronic device, such as a personal computer. Specifically, the “card could use RFID or near field technology so that it can connect to a personal computer and be used to uniquely generate a credit card number for online purchases.” *Id.*, 13-14 ([0017]). Accordingly, in the embodiment where the card is used in conjunction with the personal computer, the “counter unit” is “information limited to said card device and said computing device.” Ex. 2007, ¶ 46.

Petitioner also asserts that there is no support for the limitation of claim 6, “wherein a card issuer authority is operable to reject as invalid a device transaction used outside of a valid range of device limitations, and wherein a card issuer authority is operable to authenticate as valid, a device transaction use within valid range of device limitations,” citing the declaration of its expert. Pet., 5 (citing Ex. 1003, ¶ 36). The cited paragraph does not explain this position at all. Nonetheless, the ’891 provisional supports this limitation.

The ’891 provisional discloses that a credit card processing facility is set up for the purpose of “authenticating”—and, therefore, conversely, rejecting—a

transaction based on the transmitted limited-use number. *See* Ex. 1012, 16 (provisional claim 6). The limited-use number can be based on a “predetermined number of authorized transactions.” *See id.*, (provisional claim 5). This represents the “valid range of device limitations,” as required by claim 6. *See id.*, (provisional claim 5). In addition, paragraph 14 of the ’891 provisional also discloses that “unauthorized use of the card is nearly impossible” absent the dynamically-generated part of the number (which use, per provisional claim 5, can be limited to a “predetermined number of authorized transactions”). *Id.*, 12-13 ([0014]).

**4. Claim 12: “The system of claim 1, wherein the computing device is further operable to present at least one challenge . . .”**

Petitioner asserts that the ’891 provisional does not provide support for all the “security challenges” recited by claim 12. Pet., 5-6. Petitioner does not actually explain what is missing, and therefore its argument should fail as a matter of law, given that it is Petitioner’s burden to show that the ’286 patent is an AIA patent. *See One World Techs., Inc. v. Chevron (HK) Ltd.*, PGR2020-00061, 2021 WL 707891, at \*2 (PTAB Feb. 23, 2021), Paper 19; *Mylan Pharms. Inc. v. Yeda Res. & Dev. Co.*, PGR2016-00010, Paper 9 at 10 (PTAB Aug. 15, 2016). Nevertheless, the following table shows the support in the ’891 provisional. *See* Ex. 2007, ¶¶ 48-58.

| Claimed Security Challenge                   | Provisional Disclosure Citation                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| “a card user personal information question.” | Ex. 1012, 12 ([0013]) (“...additional inputs to key in customer specific information”); <i>id.</i> , 13 ([0016]) (“[T]he display can be used to ask the user a security question[.]”); <i>id.</i> , 16 (provisional claim 5) (“user secrets”); Ex. 2007, ¶ 49.                                                                                                                                |
| “a card issuer authority security question”  | Ex. 1012, 13 ([0016]) (“[I]f the fraud protection services need to contact a customer, they can verify the customer’s identity by transmitting a security question to the user’s credit card screen to which the user would then need to respond correctly using the input buttons on the card.”); <i>id.</i> , 16 (provisional claim 5) (“credit card authority secrets”); Ex. 2007, ¶ 50.   |
| “a user touch-screen entry”                  | Ex. 1012, 12 ([0013]) (“touch sensors which can be formed by contacts that a user can press”); <i>id.</i> , 16, (provisional claim 4) (“wherein said device may incorporate a plurality of touch sensors . . . which may[:] allow user input of information”); <i>id.</i> , 19 (Figure) (disclosing a touch sensor array and display coupled to a microprocessor and memory); Ex. 2007, ¶ 51. |
| “a user touch-screen swipe”                  | Ex. 1012, 16 (provisional claim 4) (“said device may incorporate a plurality of touch sensors . . . which may [:] . . . with a gesture across said sensor for the purpose lock/unlock or control access for transactions”); Ex. 2007, ¶ 52.                                                                                                                                                   |

| <b>Claimed Security Challenge</b>                    | <b>Provisional Disclosure Citation</b>                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| “a user gesture of a device”                         | Ex. 1012, (provisional claim 4) (“a gesture across said sensor for the purpose lock/unlock or control access for transactions”); Ex. 2007, ¶ 52.                                                                                                                                                                                                                                                                               |
| “a user passcode entry”                              | Petitioner admits this is disclosed. Pet., 5; <i>see also</i> Ex. 1012, 13 ([0016]) (“ask the user a security question if an improper password is entered.”).                                                                                                                                                                                                                                                                  |
| “a biometric sensing of a user touch”                | Ex. 1012, 12 ([0013]) (“[T]he card can comprise additional human inputs, <i>e.g.</i> , touch sensors which can be formed by contacts that a user can press.”); Ex. 2007, ¶¶ 53-57.                                                                                                                                                                                                                                             |
| “a biometric sensing of a recognized user proximity” | Ex. 1012, 12 ([0013]) (“[T]he card can comprise additional human inputs, <i>e.g.</i> , touch sensors which can be formed by contacts that a user can press.”) ; Ex. 2007, ¶¶ 53-57.                                                                                                                                                                                                                                            |
| “a biometric sensing of a recognized user”           | Ex. 1012, 12 ([0013]) (“[T]he card can comprise additional human inputs, <i>e.g.</i> , touch sensors which can be formed by contacts that a user can press . . . There can also be additional inputs to key in customer specific information. For example, there can be inputs to key in . . . any . . . kind of unique identifier”); <i>id.</i> , 16 (provisional claim 4) (“user input of information”); Ex. 2007, ¶¶ 53-57. |

Petitioner argues that the rest of claim 12 is also unsupported (Pet., 5) but again gives almost no detail on its position. Nor does its expert (who again, just parrots the petition). Ex. 1003, ¶ 37. The ’891 provisional discloses that “the

computing device is operable to reject and accept a user authorization to use the device based on the security challenge response” as required by claim 12. For example, paragraph 13 of the ’891 provisional discloses that “[i]f any other number besides the password is entered multiple times, or if there is attempted usage of the card without entering in a password, an automatic phone call may be triggered to the appropriate fraud protection authorities.” Ex. 1012, 12 ([0013]). This disclosure also meets the limitation of claim 12, “wherein the computing device is operable to decline performing a payment transaction while in the possession of an unauthorized user, and wherein the computing device is operable to perform a payment transaction while in the possession of a user correctly passing the at least one challenge.” *See also id.*, 16 (provisional claim 4) (“said device may incorporate a plurality of touch sensors . . . which may . . . confirm/deny transaction information . . . [or] with a gesture across said sensor for the purpose lock/unlock or control access for transactions”); Ex. 2007, ¶ 58.

5. **Claim 15: “wherein a card issuing authority is operable to reject as invalid, a payment information used outside of its valid limitations of use.”**

Petitioner asserts that the limitation of claim 15, “wherein a card issuing authority is operable to reject as invalid, a payment information used outside of its valid limitations of use,” lacks provisional support. *See* Pet., 6. This limitation is supported for the same reason as claim 6. *See supra*, Section II.C. Namely, the ’891

provisional discloses that a credit card processing facility is set up for the purpose of “authenticating” a transaction based on the limited-use number transmitted to it. *See* Ex. 1012, 16 (provisional claim 6). The limited-use number can be based on a “predetermined number of authorized transactions,” per provisional claim 5, which supports the limitation of ’286 patent claim 15: a “valid range of device limitations.” *See id.*, 16 (provisional claim 5). Paragraph 14 of the ’891 provisional also contains relevant disclosure including that “unauthorized use of the card is nearly impossible” absent the limited-use number that is authenticated by the card processing facility (again, per provisional claim 5, the limited use number can be for a “predetermined number of authorized transactions.”). *See* Ex. 1012, 12-13 ([0014]); *id.*, 16 (provisional claim 5).

Petitioner argues that there is no disclosure of a “card issuing authority.” Pet., 6. But, a card issuing authority would also qualify as a card processing facility. Ex. 2007, ¶¶ 59-61. Further, the ’891 provisional explains throughout that the invention is intended as a “credit-card replacement . . . for the purpose of emulating a standard credit card.” Ex. 1012, 18 (Abstract). Per the ’891 provisional, the “advantage” of the “standard” credit card is that “the entire credit card infrastructure is built around” it. *Id.*, 8-9 ([0002], [0005]). A person of ordinary skill in the art would of course have understood that a “card issuing authority” can be involved in authenticating (or rejecting) a transaction involving a standard credit card using the existing credit card

infrastructure. *See* Ex. 2007, ¶¶ 60-63. The '891 provisional discloses that “a credit card can be created that has no fixed number and therefore cannot be stolen” and that, “[a]ccordingly, unauthorized use of the card is nearly impossible because no transaction can be conducted with only the static part of the credit card.” Ex. 1012, 12-13 ([0014]); *see also id.*, 13 ([0015]) (disclosing that “one of the inputs on the front of the [recited] card can be used to select the appropriate bank or credit provider” (*i.e.*, the card issuing authority) so that “a single credit card can be used for multiple banks”). A POSITA would have understood that “a card issuing authority,” such as a bank or credit provider can reject a transaction as unauthorized. *See* Ex. 2007, ¶¶ 60-63. And, the '891 provisional discloses that a limited-use number can be generated by a credit card processing facility “for the purpose of authenticating said number is from a recognized card used in a user-authorized transaction.” *See* Ex. 1012, 16 (provisional claim 6). A POSITA would have understood that a “card issuing authority” in the standard “credit card infrastructure” is involved in rejecting as invalid an unauthorized or invalid use. *See* Ex. 2007, ¶¶ 60-63. That unauthorized use can include use of a number beyond “a predetermined number of authorized transactions.” *See* Ex. 1012, 16 (provisional claim 5). Accordingly, claim 15 is supported by the '891 provisional.

**B. Petitioner Fails To Show That The Challenged Claims Are Directed to Printed Matter**

Petitioner offers a conclusory argument that the limitations requiring no fixed

payment numbers of claims 1, 5, 15, 19, and/or 20 are directed to printed matter and not entitled to patentable weight. *See* Pet., 8-9. Petitioner is wrong because “a limitation is printed matter only if it claims the *content* of information,” and these limitations do not claim the content of any information. *See id.*; *In re DiStefano*, 808 F.3d 845, 848-51 (Fed. Cir. 2015) (“[P]rinted matter must be matter claimed for what it communicates.”); *C.R. Bard Inc. v. AngioDynamics, Inc.*, 979 F.3d 1372, 1381 (Fed. Cir. 2020) (“[P]rinted matter encompasses any information claimed for its communicative content.”). Rather, these limitations claim that the payment card devices do *not* communicate such information.

Even if the limitations were directed to printed matter—they are not—they are entitled to patentable weight because they are functionally related to the claimed devices within the claimed system. *See DiStefano*, 808 F.3d at 850-51. For example, 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.” *See* Ex. 1001, 9:62-10:2. Further, the absence of the fixed payment numbers ensure that “[o]nly the [limited-use payment information] generated at the instant the [claimed systems are] being used matters,” because it is the only payment information in the claimed systems that is communicable to a merchant. *See id.*, 18:8-12, 11:43-47.

### **C. Petitioner Fails to Meet Its Burden as to Grounds 1A through 1G.**

Petitioner's Ground 1A asserts that claims 1, 2, 7-10, 12-16, and 18 are obvious over a combination of Smith, Kobylkin, and Gomez; Ground 1B asserts that claim 3 is obvious over the same Smith-Kobylkin-Gomez combination, plus Saarisalo; Ground 1C asserts that claim 4 is obvious over the same Smith-Kobylkin-Gomez combination, plus Saarisalo and Slonecker; Ground 1D asserts that claims 5, 11, and 17 are obvious over the same Smith-Kobylkin-Gomez combination, plus Mestre; Ground 1E asserts that claim 6 is obvious over the same Smith-Kobylkin-Gomez combination, plus Sahota; Ground 1F asserts that claim 19 is obvious over the same Smith-Kobylkin-Gomez combination, plus Moosavi; and Ground 1G asserts that claims 20-27 are obvious over the same Smith-Kobylkin-Gomez combination, plus Mullen. These Grounds should be rejected at least both because they are missing key limitations and because Petitioner has not shown that a POSITA would have been motivated to combine, and had a reasonable expectation of success in combining, the references according to Petitioner's theories.

#### **1. The "Device Account Number" And "Static Device Account Number" Limitations**

Petitioner relies exclusively on Smith for limitation 1.7b "wherein the processor is operable to store ... a device account number" and limitation 20.7 "wherein the memory is operable to store ... a static device account number."

As explained below, Petitioner has not shown that Smith discloses either a “device account number” (required by claim 1 and its dependents claims 2-14) or a “static device account number” (required by claim 20 and its dependent claims 21-27). Petitioner has also failed to show Smith discloses that it is “the processor [of the claimed computing device that] is operable to store ... a device account number” (claims 1-14) or “the memory [of the claimed computing device that] is operable to store ... a static device account number” (claims 20-27).

**a. Petitioner Has Not Shown That The Smith-Kybolkin-Gomez Combination Discloses That “The Processor is Operable to Store ... a Device Account Number” As Required By Limitation 1.7b.**

Limitation 1.7b recites, “wherein the processor is operable to store ... a device account number.” Ex. 1001, 19:62-64. Claims 2-14 each depend, directly or indirectly, from claim 1 and therefore include the same limitation. Ex. 1001, 20:17-21:45.

Petitioner provides three “mappings,” all relying exclusively on Smith. Pet., 27-29. Each such mapping fails for multiple reasons.

As a threshold matter, no mapping discloses a *device* account number.

*No Device Account Number for First Mapping:* Petitioner first maps the “device account number” to Smith’s “mobile cloud account number (MCA).” Pet., 27-28 (citing Ex. 1004, [0034]). Per Petitioner, Smith discloses that the MCA “may be associated with a real card account number (RCA)” and “may be mapped to the

RCA such that the user may conduct a financial transaction.” Pet., 27-28 (quoting Ex. 1004, [0034]) (emphasis omitted). Petitioner’s expert simply parrots—verbatim—the Petition, adding no analysis. Pet., 28 (citing Ex. 1003, ¶ 149).

Notably absent from Petitioner’s analysis—and from Smith—is that the MCA is a *device* account number. That is because it is not. The MCA is a “*mobile cloud* account number,” which corresponds to the “mobile cloud account,” not a device. Smith discloses a mobile device 102 (which Petitioner equates to the claimed “computing device”) and separately “data related to one or more mobile cloud accounts” which “may include a mobile cloud account number (MCA).” Ex. 1004, [0034]; *see also* [0015], [0032], FIG. 1 (disclosing mobile cloud account is separate from mobile device 102). Further confirming that the MCA is not a device account number but rather for a mobile cloud account, Smith discloses that (i) “each mobile cloud account 704 may include mobile cloud account data 802, such as the MCA...”, Ex. 1004, [0077] and (ii) “the service provider 110 may generate an MCA corresponding to the RCA” where the “MCA may include one or more attributes of the RCA including at least one of: brand, product, country code, region, account level management participation, and Durbin indicator,” Ex. 1004, [0083]; *see also* [0093]. In sum: the MCA corresponds to the mobile cloud account, not a device.

*No Device Account Number for Second Mapping:* Petitioner then maps the “device account number” to Smith’s “real card account number (RCA).” Pet., 28

(citing Ex. 1004, [0055]-[0056], FIG. 4A). Per Petitioner, Smith discloses an RCA “for which the user can request to obtain a corresponding mobile account number” and that “the MCA may include at least a portion of the RCA.” Pet., 28 (citing Ex. 1004, [0055]-[0056], FIG. 4A & quoting [0083]). Petitioner’s expert again parrots—verbatim—the Petition, adding no analysis. Pet. 28 (citing Ex. 1003, ¶ 150).

Like with the MCA, absent from Petitioner’s analysis—and from Smith—is that the RCA is a *device* account number. It is not. The RCA is a “*real card* account number,” which corresponds to a “*payment* account,” not a device. Ex. 1004, [0007] (“a real card account number (RCA) corresponding to a payment account”), [0010] (same), [0090] (same). Smith likewise discloses that “the RCA may correspond to a *payment account* issued to the user by an issuer 112.” Ex. 1004, [0034] (emphasis added). Per Smith, a “payment account” is “[a] financial account that may be used to fund a transaction, such as a checking account, savings account... etc.” and “may be associated with an *entity*, which may include a person, family, company, ... etc....” Ex. 1004, [0030] (emphasis added). Note also that the issuer 112 is separate from the mobile device 102. Ex. 1004, FIG. 1, [0034]. In short: the RCA has no relation to a device, let alone does it correspond to a device account (it corresponds to a real card account).

*No Device Account Number for Third Mapping:* Petitioner’s assertion regarding the third mapping consists of a single, conclusory sentence: “In the combination, Smith teaches that the processor of the mobile device stores in a secure element an ‘integrated circuit (ICC) public key’ and an ‘ICC private key,’ each of which comprise a number indicative of a device account of a user (*i.e.*, a device account number).” Pet., 28-29 (emphasis omitted) (citing Ex. 1004, [0077], [0080]-[0081], [0089]-[0092]). As with the other mappings, Petitioner’s expert parrots—verbatim—the Petition, adding no analysis. Pet. 29 (citing Ex. 1003, ¶ 151).

As with the MCA and RCA, Petitioner again fails to explain how the ICC public or private keys are a *device* account number. They are not. Smith explains that “an integrated circuit card (ICC) RSA key pair including an ICC public key and an ICC private key may be generated by a generating device (e.g., included in the service provider 110).” Ex. 1004, [0089]; *see also* [0080] (“Methods for generating the key pairs using RSA will be apparent to persons having skill in the relevant art.”). The ICC public and private key may then be sent to the mobile device “for storage.” Ex. 1004, [0090]. That is, the ICC keys correspond to the integrated circuit card (ICC)—they have no relation to a *device* (or even account).

The lack of a device account number is not Petitioner’s only failure for limitation 1.7b:

- While Petitioner pays lip service to the processor being operable to store the alleged device account numbers, nowhere do any of Petitioner's citations to Smith mention a processor, let alone explain that it is the processor of Smith's mobile device that is operable to store the MCA, RCA, ICC public key, or ICC private key. *See* Pet., 27-28 (discussing first mapping relying exclusively on Ex. 1004, [0034]); 28 (discussing second mapping relying only on Ex. 1004, [0055]-[0056], [0083], [0095], FIG. 4A); 28-29 (discussing third mapping relying only on Ex. 1004, [0077], [0080]-[0081], [0089]-[0092]). Thus, Petitioner has failed to meet its burden for each mapping for this additional reason.

- Petitioner's assertion regarding the RCA (the second mapping) additionally fails because—as Petitioner admits—Smith discloses that the RCA is *not* stored on the mobile device (of which the processor is part): “the user may be able to conduct a payment transaction using the mobile device 102 *without* storing the RCA, thereby reducing the potential for fraud.” Pet., 28 (quoting Ex. 1004, [0034]) (emphasis added).

**b. Petitioner Has Not Shown That The Smith-Kybolkin-Gomez Combination Discloses That “The Memory is Operable to Store ... a Static Device Account Number” As Required By Limitation 20.7.**

Limitation 20.7 recites, in relevant part, “wherein the memory is operable to store ... a static device account number.” Ex. 1001, 22:61-62. Claims 21-27 each

depend, directly or indirectly, from claim 20 and therefore include the same limitation. Ex. 1001, 23:13-24:19.

For limitation 20.7, Petitioner relies only on Smith's "mobile cloud account number (MCA)," equating it to the "static device account number." Pet., 82 (citing Ex. 1004 [0034] and its discussion of 1.7b). This assertion fails for at least three reasons.

First, as explained above regarding limitation 1.7b, the MCA is *not* a device account number. *See Section VI.C.1.a, supra*. Rather, as explained, it corresponds to a separate "mobile cloud account." *See id.*

Second, Petitioner makes no attempt to show that the MCA is a *static* device account number. For example, Petitioner does not explain if or how the MCA qualifies as static or a static device account number.

Third, like with limitation 1.7b, for limitation 20.7, Petitioner relies exclusively on Paragraph 34 of Smith. However, this paragraph says nothing about where or how the MCA may be stored. *See* Ex. 1004, [0034]. Petitioner has thus similarly failed to meet its burden to show, in the Petition, that it is Smith's "memory [that] is operable to store ... a static device account number[.]"

**2. Petitioner Has Not Shown That The Smith-Kybolkin-Gomez Combination Discloses “Dynamically Generating Limited-Used Payment Information” As Required By Limitations 15.7 and 20.9a.**

Limitation 15.7 recites “wherein the computing device is configured to dynamically generate limited-use payment information.” Ex. 1001, 21:59-60. Claims 16-19 depend directly from claim 15 and therefore include the same limitation. Ex. 1001, 22:13-37.

Limitation 20.9a is similar: “wherein the processor is operable to dynamically generate at least a portion of a limited-use payment information for use by an authenticated user.” Ex. 1001, 23:1-3. Claims 21-27 each depend, directly or indirectly, from claim 20 and therefore include the same limitation. Ex. 1001, 23:13-24:19.

For these limitations, Petitioner simply refers back to limitation 1.9. Pet., 47, 84. Petitioner provides no other analysis or explanation. *See id.* Limitation 1.9 recites “wherein the processor is operable to generate at least a portion of a limited-use payment information for use by an authenticated user.” Ex. 1001, 20:1-3. Of note, limitation 1.9 does not require *dynamic* generation, nor does Petitioner explain

how the alleged limited-use payment information in Smith (or Gomez)<sup>2</sup> are dynamically generated, let alone explain how the identified “computing device” (claim 15) or “processor” (claim 20) in Smith are “configured to” or “operable to,” respectively, dynamically generate such information. Pet., 35-36 (discussing limitation 1.9).

For limitation 1.9, Petitioner points to Smith’s “payment cryptogram” as the “limited-used [] payment information.” Pet., 35. Petitioner quotes Smith, at Paragraph 67, that the cryptogram can be “an authorization request cryptogram or dynamic card validation code, generated based on at least a portion of the mobile cloud account data stored in the secure element 210.” Pet., 35 (quoting Ex. 1004, [0067]). Petitioner provides no other explanation regarding Smith’s disclosure. Pet., 35. Its expert again simply parrots—verbatim—the Petition. Ex. 1003, ¶ 164.

However, Petitioner (and its expert) fail to identify any disclosure in Smith that discloses that the payment cryptogram is (i) “dynamically generated” and (ii) “limited-use payment information.” At best, Smith only discloses that the payment

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<sup>2</sup> Petitioner mentions Gomez for limitation 1.9, but never applies Gomez to later claim limitations involving “the limited-use payment information”—relying exclusively on Smith’s teachings, *e.g.*, “convey[ing]” the information in limitations 1.10, 15.8, and 20.10.

cryptogram can be a “dynamic card validation code.” Neither Petitioner nor Smith say anything more about this “code”; Smith, for example, does not say how it is generated, what component does the generation (such as a processor or computing device), whether and to what extent it changes from one transaction to another, or whether it is otherwise “limited-use.” Smith’s lack of teaching and Petitioner’s failure to meet its burden are fatal here.

As to Petitioner’s inclusion of Gomez, it should be disregarded, as Petitioner does not apply Gomez’s teachings to the other “limited-use payment information” limitations or explain how Gomez’s teachings would apply within the Petitioner’s combination. *See also supra* n.2. But, even if considered, it does not change Petitioner’s failure. Petitioner’s entire argument is a single quote to Gomez: Gomez discloses that the EPIC payment card “generates an authentication cryptogram for each attempted transaction.” Pet., 35-36 (quoting Ex. 1017, 5:25-28 [sic: 5:13-16]; emphasis omitted). Petitioner fails to explain how that cryptogram is dynamically generated or corresponds to limited-use payment information. Petitioner also fails to explain if or how the alleged computing device (claim 15) or the processor (claim 20) in Smith<sup>3</sup> are “configured to” or “operable to,” respectively, dynamically

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<sup>3</sup> Petitioner relies upon Smith for these limitations. Pet., 46 (referring back to limitation 1.2), 82 (same), 23-24 (limitation 1.2).

generate such cryptogram. Lastly, Gomez describes as an “authentication cryptogram,” and Petitioner provides no explanation of how that allegedly corresponds to “*payment* information.” Thus, Petitioner’s arguments, even if considered, regarding Gomez likewise fail.

### **3. Petitioner Does Not Demonstrate That A POSITA Would Have Combined Smith With Kobylkin and Gomez**

In each ground, Petitioner relies on the combination of Smith, Kobylkin, and Gomez (and in some grounds, additional references). Petitioner’s analysis focuses separately on combining Smith and Kobylkin and Smith and Gomez, rather than a complete system.

Petitioner relies on the combination of Smith and Kobylkin, and asserts that a POSITA would have used Smith’s mobile device “to activat[e] and/or fund[ the] disposable payment card” of Kobylkin, “like that described in Kobylkin.” Pet., 15-17. However, Petitioner does not explain why a POSITA would find it useful to combine Smith and Kobylkin in this manner when claims 1 through 27 of the ’286 Patent do not claim use of a mobile device to “activat[e] and/or fund” a physical card. *See* Ex. 1001, 19:50-24:19; Ex. 1005, [0031]. Petitioner also does not explain how or why a POSITA would find it useful to use Smith’s mobile device to activate or fund Kobylkin’s instant disposable payment card in the context of Smith, which is directed to a mobile device for conducting contactless payment transactions at a physical payment terminal. *See supra* § III.A; Ex. 1004, [0035], FIG. 1.

Petitioner further relies on the combination of Smith and Gomez, and asserts that a POSITA would have implemented in Smith the “transaction sequence count” and “generat[ion] of a payment cryptogram for each transaction only after receiving a valid credential (*e.g.*, a PIN) from the user” from Gomez. Pet., 18-19. However, Smith discloses a complete solution built upon a more sophisticated device “such as a cellular phone, smart phone, table [*sic*] computer, etc.” that a POSITA would understand already includes security measures to prevent fraudulent access to the functions of the mobile device, including a secure element and a “payment application [to] provide security for the functions performed by the mobile device ... as disclosed herein.” See Ex. 1004, [0033], [0042]. In contrast, the disclosure of Gomez relied upon by Petitioner discloses a far less secure payment card bearing a “fully static payment card number” printed or embossed onto the card which also leaves behind the “readily observable” payment number—making the disclosed measures necessary to maintain security. See Ex. 1017, 5:13-18; *id.*, 5:32-40 (disclosing that the numbers used in a payment transaction are “left behind” and “readily observable”); *id.*, 13:63-65 (“[T]he payment card identification is visible and left behind after a transaction.”).

Petitioner also argues that a POSITA would have combined Smith and Gomez to prevent re-use of intercepted cryptograms for additional transactions. Pet., 19. However, a POSITA would not have been motivated in this matter because Smith

teaches that the cryptogram is not vital to security in its system, disclosing that “the service provider 110 may still forward the RCA to the payment network 108 for forwarding to the issuer 112 [(i.e., allow a transaction to proceed)] if mapping [of the MCA to the RCA] succeeds *but cryptography validation of payment credentials (e.g., a payment cryptogram) fails.*” See Ex. 1004, [0062]-[0063] (emphasis added).

Petitioner also argues that a POSITA would combine Smith and Gomez so that the payment cryptogram is displayed on Smith’s mobile device for use in online transactions. Pet., 19-20. However, Petitioner does not explain why a POSITA would find this combination useful, as Smith is not directed to online transactions, but to a mobile device for conducting contactless payment transactions at a physical payment terminal. Ex. 1004, [0035].

Moreover, Petitioner’s assertions regarding the motivation to combine and reasonable expectation of success rely upon the conclusory, unsupported assertions of its expert for numerous propositions—as with other portions, its expert repeats, verbatim, the Petition’s conclusions, providing *no* evidentiary support.<sup>4</sup> There are

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<sup>4</sup> The fact that the expert declaration is simply a copy and paste is further confirmed by comparing the Petition and declaration—the latter is a verbatim copy of the former including emphasis and typos. Note, for example, the use of “*Id.*” in the second sentence of both the Petition (at page 15) and the expert declaration (at

Paragraph 120)—the “*Id.*” actually refers to the expert declaration, Ex. 1003 (in other words, the expert is citing himself). This is true in other paragraphs of the expert report (*e.g., compare* Pet., 15, 16-17, *with* Ex. 1003, ¶¶ 121, 122, respectively). ). It is also true where Petitioner and the expert cite the wrong exhibit, *e.g.,* citing to Ex. 1012 (the ’286 Patent’s provisional application), which does not contain the identified “thief” quote. *See* Pet., 18 & Ex. 1003, ¶ 123.

| Petition at 15                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ex. 1003, ¶ 120                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>A POSITA would have found it obvious and would have been motivated by multiple reasons to extend the functionality of Smith’s mobile device for use in activating and/or funding a disposable payment card as taught in Kobylkin. SAMSUNG-1003, [120].</p> <p>Indeed, a POSITA would have found that adapting Smith’s mobile device in this manner would have been beneficial to allow a user to make ready use of disposable payment cards. <i>Id.</i></p> | <p>A POSITA would have found it obvious and would have been motivated by multiple reasons to extend the functionality of Smith’s mobile device for use in activating and/or funding a disposable payment card as taught in Kobylkin.</p> <p>Indeed, a POSITA would have found that adapting Smith’s mobile device in this manner would have been beneficial to allow a user to make ready use of disposable payment cards. <i>Id.</i></p> |

numerous examples for which there is no evidentiary support apart from the expert’s parroted conclusions including: (i) knowledge as of the critical date about smartphones and their applications, Pet., 16 (citing Ex. 1003, ¶ 121); (ii) the desirability “to permit a user to perform Kobytkin’s activation and funding operations on the *same* mobile device,” Pet., 16 (citing Ex. 1003, ¶ 121; emphasis in original); and (iii) the alleged obviousness and reasonable expectation of success in combining the references using “known solutions,” Pet. 16-18 (citing Ex. 1003, ¶¶ 122, 124). Such conclusory expert assertions—which are the *only* support provided by Petitioner in many instances—should be disregarded and afforded little, if any, weight. *See Xerox Corp. v. ByteMark, Inc.*, IPR2022-00624, Paper 9, 15 (PTAB Aug. 24, 2022) (designated precedential Feb. 10, 2023) (“We have reviewed this excerpt from Dr. Jones’ declaration and note that it merely repeats, verbatim, the conclusory assertion for which it is offered to support .... Dr. Jones does not cite to any additional supporting evidence or provide any technical reasoning to support his statement. Thus, the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight.”); *see also Google LLC v. Valtrus Innovations Ltd.*, IPR2022-01408, Paper 13, 28 (PTAB Apr. 11, 2023) (“Petitioner’s assertions, and Petitioner’s expert

Dr. Madiseti's testimony, is unpersuasive as conclusory and without sufficient foundation.”).

## **VII. THE BOARD SHOULD EXERCISE ITS DISCRETION TO DENY INSTITUTION UNDER 35 U.S.C. § 324(a)**

Patent Owner respectfully submits that discretionary denial of institution under Section 324(a) is warranted based on (i) the efficient use of the Board's time and resources and (ii) consideration of the factors set out in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential). *See also Supercell Oy v. Gree Inc.*, PGR2021-00034, Paper 10, 8-10 (PTAB July 7, 2021) (applying *Fintiv* to Section 324(a)).

### **A. The Board Should Deny Institution Based on the Efficient Use of the Board's Time and Resources**

The Board should deny institution because the vast majority—if not all—of Petitioner's multiple challenges fail to meet the “reasonable likelihood” institution standard and, as such, institution would not be an efficient use of the Board's time and resources.<sup>5</sup> *See, e.g., Nanya Tech. Corp. v. Monterey Research, LLC*, IPR2021-

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<sup>5</sup> As discussed above, Patent Owner respectfully submits that Petitioner has failed to show a “reasonable likelihood” of prevailing with respect to any challenged claim under any proposed ground. Therefore, denial is warranted for that reason alone. To the extent that the Board, however, finds some challenges meet the “reasonably

00171, Paper 8, 22 (PTAB May 26, 2021) (exercising discretion under Section 314(a) to deny institution where “Petitioner could at best succeed in 8 of 41 challenges, 8 of 20 claims, and 2 of 9 Grounds” and thus “it would not be an efficient use of the Board’s time and resources to institute review”); *Google LLC v. Jawbone Innovations, LLC*, IPR2022-00888, Paper 12, 38-39 (PTAB Nov. 28, 2022) (exercising discretion under Section 314(a) to deny institution where “Petitioner fail[ed] to satisfy the ‘reasonable likelihood’ institution standard for four of the five challenges and thirteen of the fourteen challenged claims”); *NetScout Sys. Inc. v. Longhorn HD LLC*, IPR2021-01258, Paper 11, 24 (PTAB Feb. 10, 2022) (denying institution where “Petitioner fail[ed] to demonstrate a likelihood of prevailing with respect to its challenges to at least 11 of [the 12] claims.”); *Deeper, UAB v. Vexilar, Inc.*, IPR2018-01310, Paper 7, 43 (PTAB Jan. 24, 2019) (informative) (denying institution because “instituting a trial with respect to all twenty-three [challenged] claims and on all four grounds based on evidence and arguments directed to only two claims and one ground would not be an efficient use of the Board’s time and resources”); *Chevron Oronite Co. v. Infineum USA L.P.*, IPR2018-00923, Paper 9, 11 (PTAB Nov. 7, 2018) (informative) (denying institution where “Petitioner

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likelihood” standard, those are minimal, at best, and denial is still warranted as explained in this section.

demonstrate[d], at most, a reasonable likelihood of prevailing with respect to two dependent claims out of a total of twenty challenged claims”).

**B. The Board Should Deny Institution under *Fintiv***

The circumstances of the concurrent Related Litigation, *CardWare Inc. v. Samsung Electronics Co., Ltd.*, Case No. 2:22-cv-00141-JRG-RSP (E.D. Tex.), demonstrate that denial is warranted. Specifically, as set forth below, the *Fintiv* factors show that considerations of efficiency, fairness, the merits, and the integrity of the AIA strongly favor denial. *See Fintiv*, IPR2020-00019, Paper 11, 6.

**1. Factor 1 is Neutral Because There is No Stay of the Parallel District Court Litigation**

Petitioner states that “[n]either party has moved for a stay.” Pet., 88. Not so. Shortly after filing this PGR petition, Petitioner moved the district court to stay the Related Litigation pending the resolution of this PGR, which motion was *denied*, Ex. 2003, 1. Even if Petitioner again moves for a stay, this factor is neutral, as any subsequent decision will come after institution, and is “based on a variety of circumstances and facts beyond [the Board’s] control and to which the Board is not privy.” *See Sand Revolution II, LLC v. Continental Intermodal Group – Trucking, LLC*, IPR2019-01393, Paper 24, 7 (PTAB Jun. 16, 2020); *Ericsson Inc. v. Collision Commc’ns, Inc.*, IPR2022-01233, Paper 12, 12 (PTAB Jan. 19, 2023).

## **2. Factor 2 Favors Denial Because the Board’s Written Decision Deadline Will Come Long After the Trial Date**

The district court in the Related Litigation entered its Docket Control Order in October 2022, setting a *Markman* hearing for August 1, 2023, and jury selection for February 5, 2024. Ex. 2001, 1 & 3. Pursuant to 35 U.S.C. § 326(a)(11), the projected statutory deadline for a Final Written Decision in this proceeding is over six months after trial in mid-August 2024. Accordingly, this factor weighs strongly in favor of denying institution. See *Samsung Elecs. Am., Inc. v. Uniloc 2017 LLC*, IPR2019-01218, Paper 7, 7-10 (PTAB Jan. 7, 2020) (denying institution where jury selection was scheduled for approximately six months before trial in the Board proceeding would conclude); *Next Caller Inc. v. TrustID, Inc.*, IPR2019-00961, Paper 10, 8-16 (PTAB Oct. 16, 2019) (denying institution where trial was scheduled to conclude “several months before a final decision would be due”); *Cisco Sys., Inc. v. Ramot at Tel Aviv Univ. Ltd.*, IPR2020-00122, Paper 15, 8 (PTAB May 15, 2020) (“Because the trial date is substantially earlier than the projected statutory deadline for the Board’s final decision, this factor weighs in favor of discretionary denial.”); *Immersion Sys. LLC v. Midas Green Techs., LLC*, PGR2021-00104, Paper 15, 10-11 (PTAB Jan. 31, 2022) (denying institution of PGR and finding factor weighs in favor of denial where jury trial was scheduled approximately four months before final written decision).

Petitioner entirely ignores the actual trial date, and relies instead on median time-to-trial statistics generally for the period from July 1, 2021 to June 30, 2022 for EDTX civil trials. Pet., 88-89. Such arguments fail. Critically, the *latest* EDTX statistics show that the median time-to-trial has *decreased* to *19.0 months*, Ex. 2004, 35, from the 24.5-month statistic Petitioner relied upon, Ex. 1103, 35. The latest district-wide time-to-trial statistics are also now consistent with *presiding judge's* median time-to-trial for patent cases: Judge Gilstrap's median time-to-trial for jury trials for patents cases filed since January 1, 2019 to May 1, 2023 is 19.3 months. Ex. 2002, 1. In either case, the median times-to-trial are *faster* than the current trial date set (February 5, 2024), which even further favor denial.

Factor 2 thus weighs in favor of denial.

**3. Factor 3 Favors Denial Because of the Parties' Significant Investment in the Parallel Proceeding by the Time of Institution, Including for Invalidity**

The parties have already served Infringement and Invalidity Contentions, and by the time of the institution decision, the claim construction process will be complete and document production will be substantially complete. Ex. 2001, 3-4. These substantial investments—including for invalidity and the court having evaluated and completed claim construction—weigh in favor of discretionary denial. *See Immersion Sys.*, PGR2021-00104, Paper 15, 11-12 (factor weighs in favor of denial where claim construction order was issued and discovery was ongoing); *Sand*

*Revolution*, IPR2019-01393, Paper 24, 10 (noting that investment in invalidity contentions is relevant to this factor).

Factor 3 weighs in favor of denial.

**4. Factor 4 Favors Denial Because the District Court Litigation Involves the Same Claims and the Same Arguments and Petitioner has Only Stipulated to Very Narrow Estoppel**

Petitioner, in its PGR Petition, offers only an extremely narrow stipulation to assert this factor favors institution. Pet., 89 (“Should IPR be instituted based on this Petition, Petitioner stipulates that it will not pursue in the Related Litigation any invalidity grounds against the Challenged Claims of the ‘286 patent that are the same as those raised in this Petition.”). Petitioner has since modified its stipulation to state that it “will not pursue an invalidity defense [in the Related Litigation] with respect to the challenged claims ... based on (i) any of the same grounds in that instituted [PGR] or (ii) any prior art reference that forms the basis of any ground in that instituted [PGR].”<sup>6</sup> Ex. 2005, 1. Based on Petitioner’s email to the Board on May 1, 2023, for other IPR Petitions<sup>7</sup> involving patents related to the ‘286 Patent, Patent

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<sup>6</sup> Patent Owner notifies the Board of this new stipulation and addresses it now, so as to avoid Petitioner from later seeking leave to file a reply to identify it.

<sup>7</sup> IPR Case Nos. IPR2023-00196, IPR2023-00210, IPR2023-00211, and IPR2023-00219.

Owner understands that Petitioner has now stated that the second prong includes “references that have the same (or substantially the same) disclosure but are not part of the grounds” (such as patents or applications related to those included in the grounds).

Even under the revised stipulation, however, the likelihood of inefficiency and conflicting decisions is particularly significant because of the potential overlap of issues and because, with trial beginning February 5, 2024, the Related Litigation will have reached a final jury verdict on validity months before the statutory deadline for a Final Written Decision. Ex. 2001, 1. Indeed, Petitioner stipulated only not to pursue the *very same grounds* and the *specific* references in those grounds (or those with the “same (or substantially the same) disclosure.”). See Ex. 2005, 1. Critically, this leaves Petitioner free to pursue the *very same* arguments in district court under the guise of technically different references or combinations. For example, under the new stipulation, Petitioner remains free to pursue substantively identical arguments using other references or references that Petitioner relies upon in the Petition but did not specifically include its grounds.<sup>8</sup> Such potential duplication is

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<sup>8</sup> Petitioner relies upon numerous references in its Petition that are not part of its specific grounds. Petitioner’s stipulation apparently does not cover such additional

especially problematic here, because the trial date will occur several months *before* any final written decision, meaning that statutory estoppel will not yet apply. Moreover, Petitioner is attempting to game the impact of its limited estoppel by splitting up its Section 101 and 112 based challenges of the same claims into a separate Petition (PGR2023-00013). Thus, even though it could have brought those challenges in a single Petition or agreed to full estoppel across the Petitions, it chose not to.<sup>9</sup>

As here, “if the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favor[s] denial.” *Fintiv*, IPR2020-00019, Paper 11, 12. As the Board noted in *Fintiv*, when both the district court and the Board will consider (or already have

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references, further demonstrating the continued substantial overlap and potential for duplicative efforts.

<sup>9</sup> Petitioner could have—but chose not to—offer a full-scope estoppel stipulation as the petitioner did in *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12, 18-19 (PTAB Dec. 1, 2020) (precedential). Here, in the context of the PGRs, that would mean stipulating not to pursue any ground it raised or reasonably could have raised, whether under Section 101, 102, 103 or 112.

considered) the same or substantially the same prior art and arguments, “concerns of inefficiency and the possibility of conflicting decisions [are] particularly strong.” *Id.*

Factor 4 favors discretionary denial.

**5. Factor 5 Favors Denial Because the Parallel District Court Litigation and the Petition Involve the Same Parties**

Petitioner does not address this factor. Pet., 89-90. As noted, the pending parallel Related Litigation involves the same parties and the same challenged patent. This factor also weighs in favor of discretionary denial. *Ericsson*, IPR2022-01233, Paper 12, 16.

**6. Factor 6 Favors Denial Because The Merits Are Weak**

As shown above, the Petition lacks strength on the merits. Factor 6 thus favors denial.

Considering all factors together—five favoring denial and one being neutral—the Petition should be denied in the Director’s discretion under 35 U.S.C. § 324(a). *See, e.g., Ericsson*, IPR2022-01233, Paper 12, 18 (denying institution where “only factor 4 weighs against discretionary denial, factor 1 is neutral, and factors 2, 3, 5, and 6 weigh in favor discretionary denial”). And, even if the Board finds that Petitioner’s new stipulation tips Factor 4 against discretionary denial, Petitioner respectfully submits that it has no impact on the outcome, as this case would then be analogous to *Ericsson*. *See id.*

## VIII. CONCLUSION

As discussed above, Petitioner's combinations fail to disclose key limitations of each Challenged Claim of the '286 Patent and are otherwise unworkable; therefore, the asserted Grounds do not render obvious any claims. Moreover, the same issues will be addressed in the District Court before the Board can issue a Final Written Decision. The Board should, therefore, deny the Petition.

Dated: May 15, 2023

Respectfully submitted,

REICHMAN JORGESEN LEHMAN &  
FELDBERG LLP

/s/ Matthew G. Berkowitz

Lead Counsel

Matthew G. Berkowitz (Reg. No. 57,215)

## **CERTIFICATE OF COMPLIANCE**

I hereby certify that this paper complies with the type-volume limitation of 37 C.F.R. §42.24 (as determined by the Microsoft Word word-processing system used to prepare this paper) because it contains 10, 809 words, excluding the parts of the paper exempted by 37 C.F.R. §42.24(a).

Dated: May 15, 2023

Respectfully submitted,

REICHMAN JORGENSEN LEHMAN  
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/s/ Matthew G. Berkowitz

Lead Counsel

Matthew G. Berkowitz (Reg. No. 57,215)

## **CERTIFICATE OF SERVICE**

I hereby certify that the foregoing Patent Owner's Preliminary Response and Exhibits listed on the List of Exhibits were served on May 15, 2023, via electronic mail upon counsel of record for Petitioner at the following email addresses:

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