
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,

Petitioner

v.

CARDWARE INC.,

Patent Owner

Case No. PGR2023-00013

Patent No. 11,328,286

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 for the 12-Month Period Ending December 31, 2022
2005	April 18, 2023 Letter from D. Valente to M. Berkowitz
2006	Defendants’ Preliminary Proposed Claim Constructions and Preliminary Identification of Extrinsic Evidence in <i>CardWare Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 22-cv-00141-JRG (E.D. Tex.)
2007	Declaration of William C. Easttom II Ph.D., D.Sc., May 15, 2023
2008	Excerpts From the File History of U.S. Patent Application No. 14/511,994
2009	Excerpts From the File History of U.S. Patent Application No. 15/054,020
2010	Excerpts From the File History of U.S. Patent Application No. 15/056,827
2011	Defendants’ Invalidity Contentions from <i>CardWare Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 22-cv-00141-JRG (E.D. Tex.)
2012	U.S. Patent No. 9,949,047
2013	U.S. Patent No 10,893,556
2014	U.S. Patent No. 11,457,381
2015	<i>Introduction to Touch Sensors Working, Capacitive, and Resistive</i> , ElectronicsHub (Apr. 20, 2019), https://www.electronicshub.org/touch-sensors/ .
2016	<i>How Does a Touch Sensor Work?</i> , Teach Engineering, https://www.teachengineering.org/lessons/view/umo_sensorswork_lesson03 (last updated June 14, 2021).
2017	Touch Screen Technology (Spring 2015) <i>available at</i> https://inst.eecs.berkeley.edu/~ee16a/sp15/Lecture/Lecture 9.pdf .
2018	Ian Maxwell, An Overview of Optical-Touch Technologies, 23 INFORMATION DISPLAY 26 (Dec. 2007) <i>available at</i> https://walkermobile.com/December_2007_ID_Overview_of_Optical_Touch Tech nologies.pdf .

No.	Exhibit Description
2019	<i>Touchscreen Issues on a Galaxy Phone</i> , Samsung, https://www.samsung.com/us/support/troubleshooting/TSG01213974/ (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), https://cs.stanford.edu/people/eroberts/cs181/projects/2010-11/NFCChips/difference.html .
2022	Tan Nguyen, <i>Near Field Communication (NFC)</i> , Carnegie Mellon University (Spring 2019), available at https://www.andrew.cmu.edu/course/14-760-s20/applications/ln/14760-119.pdf .
2023	<i>Facility Definition & Meaning</i> , Merriam-Webster, https://www.merriam-webster.com/dictionary/facility (last retrieved May 15, 2023).
2024	<i>Definition of facility noun from the Oxford Advanced Learner's Dictionary</i> , Oxford Learner's Dictionaries, https://www.oxfordlearnersdictionaries.com/definition/english/facility (last retrieved May 15, 2023).
2025	<i>Biometric Sensor Chips Information</i> , GlobalSpec, https://www.globalspec.com/learnmore/semiconductors/sensor_ic/biometric_sensors (last retrieved May 15, 2023).
2026	Xiongwu Xia & Lawrence O’Gorman, <i>Innovations in fingerprint capture devices</i> , 36 Pattern Recognition 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 ADVANCED ROBOTICS 829 (2008).
2029	Jun-Chieh Liu et al., <i>A CMOS Micromachined Capacitive Sensor Array for Fingerprint Detection</i> , 12 IEEE SENSORS J. 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)).

No.	Exhibit Description
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 https://www.justice.gov/d9/opcl/docs/pia-pivcard-hspd12.pdf .
2033	U.S. Patent No. 10,628,820
2034	Joint Claim Construction Statement in <i>CardWare Inc. v. Samsung Electronics Co., Ltd.</i> , Case No. 22-cv-00141-JRG (E.D. Tex.)

I. INTRODUCTION

The Board should deny institution of Petitioner Samsung Electronics Co., Ltd.'s ("Samsung") 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, Samsung fails to establish a reasonable likelihood that any claim is unpatentable.

Regarding Samsung's Section 101 positions, Samsung completely ignores the overwhelming body of Federal Circuit caselaw, holding that claims improving computer security, including claims similar to those at issue here, are non-abstract and patent-eligible. More specifically, the '286 patent addresses security weaknesses in the existing payment infrastructure, and claims specific improvements including a device-generated limited-use number in place of a readily-compromised issuer provided number.

Samsung is also hypocritical; it has taken the exact *opposite* position before the U.S. Patent and Trademark Office ("PTO") as it concerns its own patent applications concerning dynamically generated payment numbers. For example, in application 14/511,994, Samsung prosecuted claims relating to "performing dynamic-CVV" including "receiving" a working key, "generating" modified card-

track data including a dCVV (dynamic version of the issuer-provided card validation value) component; “sending” the modified card track data to a point of sale terminal; “receiving” a request for verification of the dCVV, and “sending” a verification failure or final verification. Ex. 2008, 9.

Samsung received a Section 101 rejection during prosecution but argued that the claims were patent-eligible:

the inventors of the subject patent application have invented a new method for performing dynamic Card Validation Value (dCVV) verification, implemented in the context of an improved computer system or device that, among other things, generates modified card track data that includes a dynamic CVV (dCVV) component based on a number of components. Accordingly, embodiments of the claimed invention solves the problem of card security by automatically converting static card data into dynamic one time use card data that can be authenticated by a payment network or processor on behalf of thousands of card issuers as a service

Ex. 2008, 13-18 & 48. On this basis, Samsung overcame the Section 101 rejection.

Ex. 2008, 63-64. It has done the same in other applications. *See* Exs. 2009, 2010.

Samsung’s Section 112 positions are similarly baseless, and appear to generally just be throw-away arguments that it would otherwise be precluded from making in the parties’ parallel litigation given the scope of estoppel associated with post-grant review proceedings. For example, its lead indefiniteness argument concerns the word “its”; Samsung argues that claim 1 is unclear because it doesn’t know what the word “its” refers to within the phrase “a card issuer authority is operable to reject as invalid a transaction attempt outside of *its* limitations of use.”

(emphasis added). But claim 1 otherwise refers to “limited-use card payment information.” The phrase “limitations of use” obviously refers to the “limited-use” nature of the card payment information. There is no ambiguity. Samsung also asserts that “transceive” is not a word and is therefore indefinite. But Samsung admits that it understands the term “transceiver,” and fails to tell the Board that Samsung itself repeatedly uses the term “transceive” in its own patents, including in claim language. *See* Ex. 2012, 2013, 2014, . The other Section 112 arguments are no better and should be rejected.

II. THE '286 PATENT IS NOT ELIGIBLE FOR POST-GRANT REVIEW

Samsung 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 Samsung'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).

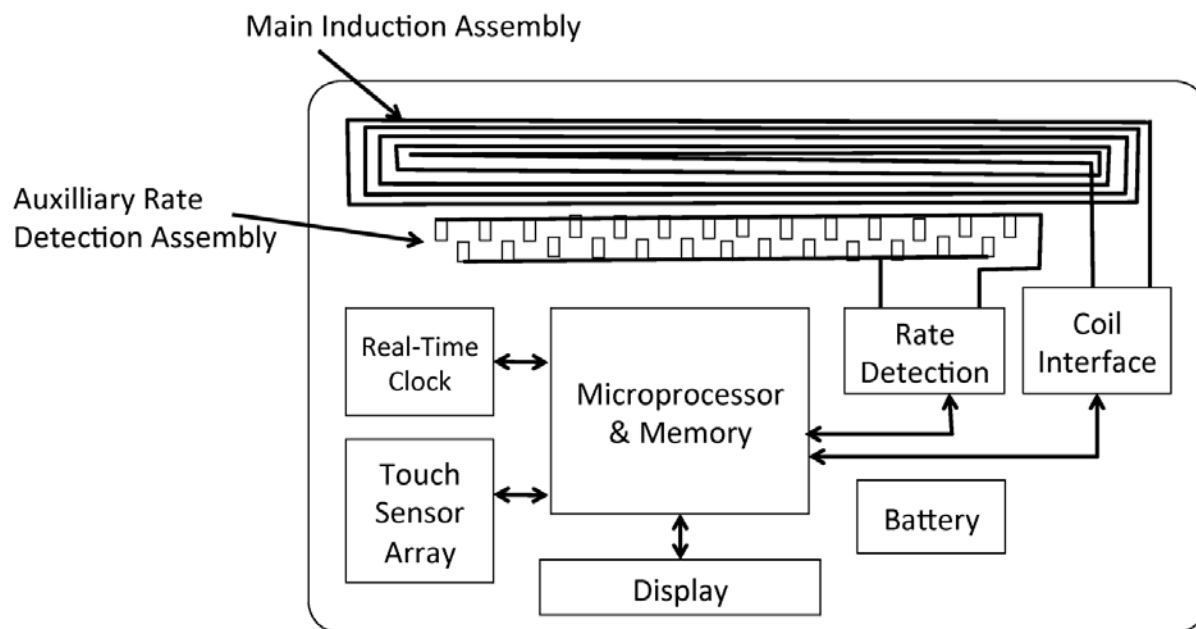
There is no dispute that the '286 patent claims priority to U.S. Provisional Patent Application No. 61/794,891 (“the '891 provisional”) filed on March 15, 2013. Accordingly, the '286 patent is not eligible for PGR unless Samsung can show that

at least one claim is not entitled to claim priority to the '891 provisional. Samsung identifies six limitations that it believes are not supported by the '891 provisional. Pet., 2-3. Samsung has failed to meet its burden with respect to each limitation.

A. 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 Samsung’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. Samsung 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.

B. 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.”

Samsung 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.

Samsung cites a sentence in the ’891 provisional referencing “online” transactions. Pet., 4. But, Samsung 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 Samsung, 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.

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

Samsung 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.

Samsung 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, ¶ 42.

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.

Samsung 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, ¶ 42). 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]).

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

Samsung asserts that the ’891 provisional does not provide support for all the “security challenges” recited by claim 12. Pet., 5-6. Samsung does not actually explain what is missing, and therefore its argument should fail as a matter of law, given that it is Samsung’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[:] .

Claimed Security Challenge	Provisional Disclosure Citation
	. . with a gesture across said sensor for the purpose lock/unlock or control access for transactions”); Ex. 2007, ¶ 52.
“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”	Samsung 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.

Samsung 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, ¶ 43. 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.

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

Samsung 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).

Samsung 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.

F. Claim 20

Finally, Samsung argues that claim 20 is not supported by the provisional, but simply cross-references its written description invalidity argument. Pet., 6. Samsung does not say anything about the disclosure of the provisional vis-à-vis claim 20. *Id.* Nevertheless, Patent Owner addresses claim 20 below in connection with its response to Samsung’s written description argument on claim 20. *See supra* Section V.C.

III. THE CLAIMS ARE NOT DIRECTED TO PRINTED MATTER

Samsung 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., 7-8. Samsung 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.

IV. THE CLAIMS ARE DIRECTED TO PATENT ELIGIBLE SUBJECT MATTER

A. The Claims Are Not Abstract

Samsung asserts that claim 1 is both representative and directed to an abstract idea. Both assertions are wrong and unsupported.

As the ’286 patent specification explains, the disclosed embodiments are directed to “more secure” payment systems than what existed in the prior art. Ex. 1001, 1:31-35. A concern with all prior art credit cards in the marketplace “is that

they call all be, in various ways, susceptible to theft and/or compromise. Therefore, these types of credit cards have security limitations.” *Id.*, 2:4-8.

The ’286 patent explains that “[e]mbodiments of the present disclosure address security concerns of a credit card owner on several fronts.” Ex. 1001, 9:67-10:2. One example is that the claimed device has the “capability of producing a limited-duration credit card number for performing transactions using accounts of the card.” *Id.*, 10:62-66. This number can be based, for example, on a variety of inputs (such as facility information) and can be limited to a specific period of time or number of transactions. *Id.*, 11:6-16. In the context of online transactions, the ’286 patent explains that the electronic device can communicate with a personal computer, which “enables a per-transaction, 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.” *Id.*, 13:1-18.

The claims of the ’286 patent, including claim 1, are directed to just these security enhancement concepts.

For example, claim 1 is directed to a payment system comprising “a payment card device free of any fixed payment numbers visible thereon.” *See* Pet., vi (Limitation 1.1). As per the ’286 patent specification, a device that “has no fixed numbers . . . cannot be compromised. Only the number generated at the instant of the credit card transaction matters. Accordingly, unauthorized use of the multi-

function electronic device is highly unlikely, because a transaction cannot be conducted with an expired limited-duration credit card number, or only the static portion of the credit card number.” Ex. 1001, 11:43-51.

Claim 1 also recites that the processor of the computing device is “operable to generate at least a portion of a limited-use card payment information for use by an authenticated card user” and to convey *this* limited use card payment information via an interface. Pet., vi (Limitation 1.9). A card issuing authority is “operable to reject as invalid a transaction attempt outside of its limitations of use.” *Id.* (Limitation 1.10).

The Federal Circuit has long held that security improvements, including computer-security improvements, are non-abstract when “done by a specific technique that departs from earlier approaches to solve a specific computer problem.” *Ancora Techs., Inc. v. HTC Am., Inc.*, 908 F.3d 1343 (Fed. Cir. 2018).

For example, in *Finjan, Inc. v. Blue Coat Systems*, the Federal Circuit held that an improved virus scanning method was non-abstract and patent-eligible because it improved the computer security profile. 879 F.3d 1299, 1305 (Fed. Cir. 2018). Specifically, claim 1,¹ reproduced below, claims a method of providing

¹ Claim 1 of the *Finjan* patent-in-suit recites, in full:

1. A method comprising:

computer security which “scans a downloadable and attaches the virus scan results to the downloadable in the form of a newly generated file: a ‘security profile that identifies suspicious code in the received Downloadable.’” *Id.* at 1303.

The Federal Circuit held that the claim is non-abstract and patent-eligible because it “employs a new kind of file that enables a computer security system to do things it could not do before.” *Id.* at 1305. Moreover, the claims “recite more than a mere result. Instead, they recite specific steps-generating a security profile that identifies suspicious code and linking it to a downloadable – that accomplishes the desired result.” *Id.*

The Federal Circuit decided *Ancora* just ten months later, and again held that an improvement to computer security was non-abstract and patent-eligible. In *Ancora*, the claimed invention related to limiting a computer’s running of software not authorized for that computer to run.² More specifically, the patent-in-suit used

receiving by an inspector a Downloadable;

generating by the inspector a first Downloadable security profile that identifies suspicious code in the received Downloadable; and

linking by the inspector the first Downloadable security profile to the Downloadable before a web server makes the Downloadable available to web clients.

Finjan, 879 F.3d. at 1303.

² Claim 1 of the *Ancora* patent-in-suit recites, in full:

a “key” or “unique identification code” for the computer, coupled with a license record in order to give permission to run a program. *Ancora*, 908 F.3d at 1345. While prior art methods described writing a license signature on a computer’s hard drive, that signature could be changed by hackers without damaging other aspects of computer functionality. *Id.* at 1344. The Federal Circuit held that the claim was non-abstract and therefore eligible. It improved computer security and identified how the functional improvement is effectuated in an assertedly unexpected way. “In this way, the claim addresses a technological problem with computers: vulnerability of license-authorization software to hacking.” *Id.* at 1348-49.

In *SRI Int’l Inc. v. Cisco Systems, Inc.*, decided less than one year after *Ancora*, the Federal Circuit again held that claims directed to specific improvements to

A method of restricting software operation within a license for use with a computer including an erasable, non-volatile memory area of a BIOS of the computer, and a volatile memory area; the method comprising the steps of:

selecting a program residing in the volatile memory,

using an agent to set up a verification structure in the erasable, non-volatile memory of the BIOS, the verification structure accommodating data that includes at least one license record,

verifying the program using at least the verification structure from the erasable non-volatile memory of the BIOS, and

acting on the program according to the verification.

Ancora, 908 F.3d, 1345-46.

computer security are non-abstract. 930 F.3d 1295 (Fed. Cir. 2019). Specifically, the claims recited use of network monitors to detect suspicious activity on a computer network based on an analysis of network traffic data. *Id.* at 1303. Moreover, the specification explained that the claimed invention is directed to solving security threats associated with interconnected and interoperable global networks. *Id.* As in *Finjan* and *Ancora*, the Federal Circuit held that the claims were non-abstract because they were directed to a “specific technique for improving computer network security.” *Id.* at 1304.

Samsung makes no mention of these cases, and instead relies heavily on *Universal Secure Registry LLC v. Apple Inc.*, and in particular, the one patent in that case involving “mapping” a time-varying multicharacter code to the identity of a customer. *See* Pet., 10 (citing 10 F.4th 1342 (Fed. Cir. 2021) (“*USR*”). There, the Federal Circuit held that the claims were directed to a “method for enabling a transaction between a user and a merchant,” and that they “simply recite conventional actions in a generic way” and “do not purport to improve any underlying technology.” *Id.* at 1349 (internal quotations and citations omitted).

Samsung’s comparison to *USR* oversimplifies the claimed invention of the ’286 patent and ignores the improvement to payment security, which is far more analogous to the claims in *Finjan*, *Ancora*, and *SRI Int’l*. Indeed, Samsung fails to explain that, in *USR*, the “patent itself acknowledges that the claimed step of

generating time-varying codes for authentication of a user is conventional and long-standing.” *USR*, 10 F.4th at 1350. Unlike the claims in *USR*, the claims of the ’286 patent are specifically directed to improving multiple weaknesses in existing payment security approaches. For example, claim 1 recites a payment card “free of any fixed payment numbers,” thereby addressing card-present fraud (such as where a merchant or other onlooker copies and misuses a visible credit card number). *See* Pet., vi (Limitation 1.1); Ex. 1001, 9:63-67. Further, the computing device of claim 1 generates and conveys a “limited-use card payment information” that a card issuer authority uses to validate or reject a requested payment transaction. *See* Pet., vi-v (Limitations 1.9-1.13). As the ’286 patent specification explains, the invention “enables a per-transaction, 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.” Ex. 1001, 13:13-17. This specific security enhancement concept is recited in claim 1.

Independent claim 15 of the ’286 patent provides that the computing device is operable to “dynamically” generate the limited use payment information while independent claim 20 provides that the dynamically generated limited-use payment information is combined with a static device account number. *See* Pet., x (Limitation 15.7); *id.*, xii (Limitation 20.9b). Dependent claim 25 further provides multiple levels of specificity as to how the limited use number is dynamically generated. It

must be based on a transaction sequence count, payment processing authority secrets, and the static device account number (which itself must be wirelessly downloaded). *See* Pet., xii-xiii.

The claims are not simply directed to a “mapping” of one piece of information to another, like in *USR*. Indeed, many computer-implemented security improvements involve some type of “mapping.” The claims in *Ancora* were directed to “verifying” a unique identification code and a license structure. And the claims in *SRI* were directed to an “analysis” of “network traffic data.” That does not make them abstract. As the court in *SRI* explained, the claims are not directed to using a “computer as a tool”, but rather they recite a specific technique for improving computer network security. 930 F.3d at 1304. The same is true with the claims of the ’286 patent. Claim 1 of the ’286 patent recites a “computing device” because it is directed to fixing a security weakness in existing mobile payment technology, not because it is using a computer to automate an otherwise manual process. The ’286 patent describes and claims a specific technique—generating (internal to the computing device)—and using a limited-use number in connection with a payment transaction, wherein the card issuer can validate or reject the transaction based on the transmitted limited-use number. That number is “dynamically” generated by the computing device in claim 15 and, in other claims, is generated based on specific information, such as a separately wirelessly downloaded static device account

number. As the '286 patent specification explains, “a transaction cannot be conducted with an expired limited-duration credit card number, or only the static portion of the credit card number.” Ex. 1001, 11:47-51. Accordingly, the '286 patent claims are not directed to using a “computer as a tool” but rather recite a specific technique and configuration (including both a payment number-free card and a device for generating a limited-use number) that is designed to improve mobile payment transaction security.

Samsung also largely ignores *CosmoKey Solutions GmbH & Co KG v. Duo Security LLC*, 15 F.4th 1091 (Fed. Cir. 2021) but this case (which distinguishes *USR*) is also instructive. *See* Pet., 24. In *CosmoKey*, the Federal Circuit held that claims directed to a specific improvement to security (preventing “unauthorized access by a third party”) that can “advantageously be carried out with mobile devices of low complexity” were directed to patent-eligible subject matter. 15 F.4th at 1098. Although the court skipped *Alice* Step 1 and framed its ruling in terms of the inventive concept analysis of Step 2, it criticized the district court’s “broad characterization of the focus of the claimed advance” without regard for the “enhanced security and low complexity” of the invention. *See id.* at 1097; *see also* 1101 (Reyna, concurring) (“Employing step one, I conclude that ‘the claims at issue are directed to patent-eligible subject matter. I agree with my colleagues that [the claims and specification] recite a *specific improvement to authentication* that

increases security, prevents unauthorized access by a third party, is easily implemented, and can advantageously be carried out with mobile devices of low complexity.’ But this is a step-one rationale.”) (emphasis in original) (internal citations omitted).

Again, like the claims in *CosmoKey*, the ’286 patent claims enhance security (in payment systems) using a computing device; they do not simply use computers as a tool to perform an admittedly known “mapping” process, like in *USR*.

Moreover, contrary to Samsung’s arguments, it makes no difference whether the claims use generic computer components. Indeed, the whole idea of the ’286 patent invention is to improve payment security using existing technologies, while maintaining compatibility with the existing payment infrastructure (without having to upend a well-entrenched and trusted global payment system). The elegance of the claims of the ’286 patent is that they do just that; they address multiple security weaknesses within the existing payment network without requiring consumers and payment providers to completely revamp the entire network and approach to online and card-present payments with new hardware or a new network architecture.

B. Samsung's Arguments in this Petition Contradict Arguments It Has Made to the USPTO in Connection with its Own Payment Security Applications Directed to Limited-Use and Dynamic Numbers, Which it Has Successfully Argued are Non-Abstract and Patent-Eligible

Samsung's arguments in this Petition are belied by its own arguments to the Patent Office in connection with its own applications. For example, in U.S. Patent Application No. 14/511,994, Samsung sought to patent a method for dynamically generating a card validation value (CVV). Specifically, the claim at issue recited:

A method for performing dynamic-CVV (dCVV), comprising:

generating, by a server, a working key for card track data;

receiving, by a magnetic stripe storage and transmission device (MST), the working key;

generating, by the MST, modified card track data including a dCVV component based on original card track data, a time-stamp or counter and the working key;

sending the modified card track data to a point of sale terminal or e-commerce website for payment processing;

receiving, by the server, a request for verification of the dCVV from a card issuer server or a third-party service provider in response to initiation of the payment processing, wherein the request includes the modified card track data; performing, by the server, a verification of the dCVV component; and

sending, by the server, a verification failure or final verification based on the verification of the dCVV component.”

Ex. 2008, 9. Samsung received a Section 101 rejection. *Id.*, 13-18. In response, Samsung argued (in an October 10, 2017 response), among other things, that the claims were patent-eligible because:

“Currently, CVV1 and CVV2 values are static and can be compromised by many different methods, such as skimming devices and sniffing devices. Further, when the security measures (*i.e.*, CVV1 and CVV2 values) associated with magnetic strip or chip card data are compromised, they can be continually used in fraudulent transactions. In contrast, the inventors of the subject patent application have invented a new method for performing dynamic Card Validation Value (dCVV) verification, implemented in the context of an improved computer system or device that, among other things, generates modified card track data that includes a dynamic CVV (dCVV) component based on a number of components. Accordingly, embodiments of the claimed invention solves the problem of card security by automatically converting static card data into dynamic one time use card data that can be authenticated by a payment network or processor on behalf of thousands of card issuers as a service”

Id., 48. Samsung overcame the Section 101 rejection with this argument. *Id.*, 63-64.

Samsung took similar positions with other applications concerning secure payment technology. In Application No. 15/054,020, Samsung received a Section 101 rejection for claims directed to a “method for exchanging encrypted information of a token service provider” that included a “device unique private key” stored on an electronic device including information for “registering payment information with the TSP.” Ex. 2009, 3-5 & 26. Samsung traversed the Section 101 rejection and ultimately succeeded in securing an allowance, resulting in U.S. Patent No. 10,193,700. *See id.*, 29-30 & 52.

And, in Application No. 15/056,827, Samsung asserted that claims directed to displaying and selecting from among multiple payment cards in response to user

inputs “improves computer functionality by enhancing security, and are, thus, patent eligible.” *See* Ex. 2010, 8.

While the claims of the ’286 patent are not verbatim the same as Samsung’s own applications, the hypocrisy is clear. Samsung has taken the position (over and over again) as it concerns *its own inventions* that improved payment security techniques, using dynamic and limited-use card numbers (or device unique private keys), are patent-eligible. It has generally been successful.

The Board should reject its new litigation-driven positions at the outset.

C. The Claims of the ’286 Patent are Patent-Eligible Under the USPTO’s Subject Matter Guidance

1. Step 2A: Evaluate Whether the Claims Recite a Judicial Exception

a. Prong One

Samsung argues that the claims are directed to “fundamental economic practices,” akin to “local processing of payments for goods” or “processing a credit application.” This is not even close. As the specification of the ’286 patent explains, existing payment cards and devices are all “susceptible to theft and/or compromise.” Ex. 1001, 2:4-7. The ’286 patent discloses numerous solutions to these security issues, including a payment card free of fixed payment information that can generate a dynamic number at the time of the transaction. *Id.*, 11:43-47. It also discloses an electronic device that can generate a limited-use payment number (using a variety of inputs, such as a wirelessly downloaded static device account number) that avoid

security risks inherent in transmitting real payment information over a network. *Id.*, 11:6-11, 11:58-12:4. The card issuer can verify the authenticity of a transaction without ever having to transmit real payment information across the network that can be hacked or compromised. *See id.*, 9:63-67; 10:63-11:6; 19:13-23. This is completely different than the strained examples proffered in Samsung’s Petition.

b. Prong Two

Prong Two considers whether a claim integrates a recited judicial exception into a practical application. Samsung simply regurgitates its prior arguments that, because the “claims use only generic off-the-shelf components without modification and recite generic functional language” that they do not recite a practical application. *See Pet.*, 29-38. This argument is both wrong and irrelevant under Prong Two. Indeed, most of the claims held to be non-abstract by the Federal Circuit used generic off-the-shelf computer components. This was the case in *Enfish*, *Ancora*, *Finjan* and many others. *See Cooperative Entertainment, Inc. v. Kollektive Tech., Inc.*, 50 F.4th 127, 135 (Fed. Cir. 2022) (“[U]seful improvements to computer networks are patentable regardless of whether the network is comprised of standard computing equipment”); *Ancora*, 908 F.3d at 1345, 1349 (claims directed to verifying a computer’s right to use software using conventional computer components were not abstract); *Finjan*, 879 F.3d at 1305 (claimed method “employ[ing] a new kind of file that enables a computer security system to do things it could not do before” were not

abstract); *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1363 (Fed. Cir. 2018) (claims directed to making websites easier to navigate on a small-screen device not directed to an abstract idea); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1338 (Fed. Cir. 2016) (“[W]e are not persuaded that the invention’s ability to run on a general-purpose computer dooms the claims.”); *McRo, Inc. v. Bandai Namco Games, Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016) (claims directed to “a specific process for automatically animating characters using particular information and techniques” were not abstract) (“While the rules are embodied in computer software that is processed by general-purpose computers, Defendants provide no evidence that the process previously used by animators is the same as the process required by the claims.”).

Indeed, the PTO Guidance specifically references *Finjan* as an example of an abstract idea integrated into a practical application. MPEP § 2106.04(d)(III). Although virus screening itself may have been an abstract idea, the Federal Circuit held (after reference to the specification), that claimed security profile “enables more flexible virus filtering and greater user customization” and thus improved computer functionality. *Id.* (citing *Finjan*, 879 F.3d at 1304). In other words, an invention does not have to actually claim non-generic computer hardware in order to improve computer functionality and be a non-abstract practical application. Rather, a claim is directed to a practical application if, consider “as a whole,” it imposes a “meaning

limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” *Id.* at § 2106.04(d). The claims at issue do just that. Samsung claims they are directed to the “abstract idea of facilitating a secure payment transaction by storing, analyzing, and transmitting payment information.” Pet., 24. But they do far more than that. Claim 1 is directed to a complete payment system including a payment number-free card and an electronic device that generates a limited-use number. Pet., vi-vii. This is more than just facilitating a transaction; it is a *new* way of performing a transaction (using something other than an actual issued credit card number) that works within the existing payment infrastructure. Independent Claim 15 adds a “dynamic” element to that, while independent claim 20 and its dependents add further specificity to the nature of the proxy payment information and the information upon which the limited-use number is based. Pet., ix-xiii. These claims do more than simply recite a payment transaction with the words “apply it” using a set of computing devices. The claims fundamentally alter the way that a payment transaction is conducted using existing payment infrastructure in order to improve security. That is a practical application and the claims are eligible under Prong 2 of Step 2A.

2. The Claims Recite an Inventive Concept, Including Under Step 2B of the USPTO Guidance

Using a device-generated limited-use number based in part on a separately stored static device account number is not conventional. Nor does any of the

evidence suggest that it is. Samsung quotes the *USR* case for the proposition that “generating time-varying codes for authentication of a user is conventional and long-standing.” Pet., 31. But even if that technology was analogous (it is not), Samsung omits the part of the Federal Circuit opinion’s demonstrating that the basis for that finding was an *admission in the asserted patent itself*. *USR*, 10 F.4th at 1350. That is simply not the case here. To the contrary, the ’286 patent explains that conventional payment devices were susceptible to theft and fraud because of various security weaknesses inherent in an openly-communicated static number system and, further, that the “limited-use” credit card number approach “enhance[es] the security of the credit account by substantially negating the possibility of a theft of the credit card number used to perform the transaction.” Ex. 1001, 13:1-18.

Samsung cites six documents as purported evidence that using a dynamic limited-use number in place of issuer-provided payment information in the existing payment infrastructure was “conventional.” Pet., 32 (citing Exhibits 1003, 1004, 1006, 1017, 1019, and 1020). In Exhibit 1003, Samsung’s expert, Dr. Shamos, discusses his views of conventionality, citing some alleged prior art documents dated just before the earliest applicable filing date of the ’286 patent. Ex. 1003, ¶¶ 104-109 and 76-81 (in paragraphs 76-78, Dr. Shamos asserts that tokenization was well known without citing to any actual evidence). The other documents, Exhibits 1004, 1006, 1017, 1019, and 1020, are disparate (purported) prior art references from the

2000s, one of which (Smith) has a filing date less than two weeks prior to the provisional filing date to which the '286 patent claims priority. Even if Samsung is correct that these references describe a limited-use payment number generated by an electronic device in the same manner as the '286 patent, they do not come close to establishing that the technology was “conventional.” An element-by-element prior art analysis has no relevance to the inventive concept inquiry of Section 101 including whether something is “conventional.” *Intellectual Ventures I v. Symantec Corp.*, 838 F.3d 1307, 1315 (Fed. Cir. 2016) (“novelty of any element or steps in a process, or even of the process itself, is of ***no relevance*** in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.”) (quoting *Diamond v. Diehr*, 450 U.S. 175, 188-89 (1981)).

Rather, the test of whether something is conventional hinges on whether the “element is widely prevalent or in common use in the relevant industry.” MPEP § 2106.05(d)(I). The analysis is the same as the analysis “under 35 U.S.C. 112(a) as to whether an element is so well-known that it need not be described in detail in the patent specification.” *Id.* With this in mind, Samsung’s reliance on prior art (some of which is, at best, pre-AIA, 102(e) secret prior art) falls far short. None of it could possibly establish that a device-generated “limited-use number” is so common that it need not be described in detail in the patent specification. Quite to the contrary, Samsung has asserted in the parties’ district court proceeding that the limitation of

claim 1 “wherein the processor is operable to generate at least a portion of a limited-use card payment information for use by an authenticated card user” is not enabled. Ex. 2011, 108 & 114. Samsung also argues that the phrase “wherein the computing device is configured to dynamically generate limited-use payment information” in claim 15 lacks written description support. *Id.*, 5-6. Samsung cannot, on the hand, argue that these concepts are not described or enabled (from the perspective of a person of ordinary skill) yet simultaneously argue in the Petition that they are so commonly used as to be conventional.

Moreover, the '286 patent specification does not admit that using a “limited-use number” to improve payment security is conventional, and no court has previously so found. *Compare* MPEP § 2106.05(d)(I) (“[E]xaminers should rely on what the courts have recognized . . . as elements that are well-understood, routine, conventional activity in the relevant field [I]n many instances, the specification of the application may indicate that additional elements are well-known or conventional.”).

Accordingly, Samsung’s arguments should be rejected. Using a device-generated limited-use number in connection with a payment transaction is an inventive concept and does not constitute conventional or routine technology.

V. SAMSUNG’S SECTION 112-BASED GROUNDS FAIL

A. Ground 2 - Alleged Indefiniteness

Samsung’s indefiniteness arguments are baseless and amount to little more than picayune and lawyer-concocted manipulation of the English language to try to create uncertainty in otherwise readily-understandable claim language.

1. Claim 1

Samsung asserts that the phrase “its” is indefinite, arguing that it could theoretically refer back to several different claim terms. Pet., 39. Claim 1 requires that a “processor is operable to generate at least a portion of a limited-use card payment information.” Pet., vi. It further requires that “a card issuing authority is operable to reject as invalid a transaction attempt outside of its limitations of use.” *Id.* Samsung and its expert (who effectively repeats the Petition) simply assert that they don’t understand the term and that it could mean multiple things. But read in context, the term “its” is clear – it refers back to the “limited-use card payment information.” The card issuing authority is operable to reject card payment information (which, per the claim is “convey[ed]” in a transaction attempt. And the card issuing authority can reject the transaction where the conveyed payment information is outside of its limitations on use. Samsung’s alternative theories make no sense in the context of the invention. Neither the claim nor the specification refer to a limitation of use on the card issuer authority or a transaction attempt. But the claim *does* specifically refer to a limitation on use of the payment information. That

is what “its” refers back to. The specification confirms this. For example, the specification explains that “if an expired limited-duration credit card is attempted to be used for a transaction, the transaction is denied” Ex. 1001, 11:17-18. Further, Table 1 (columns 18-19) recites claims originally presented in the provisional application. *Compare* Ex. 1001, 18:48-19:29 *with* Ex. 1012, 15-17. Provisional claim 5 is directed to generation of a “limited-use credit card number.” Ex. 1001, 19:13-17. Claim 6 depends from claim 5 and specifies that certain information is “similarly combined by credit card processing facility to generate a credit card number for comparison to the number transmitted by the credit card reader, for the purpose of authenticating said number is from a recognized card . . .” *Id.*, 19:18-22. Samsung and its expert make no mention of these portions of the specification which confirm that “its” refers to the limited-use nature of the payment information.

Samsung further argues that limitation 1(13) renders claims 1 (and, by definition, dependent claims 2-19) indefinite because it twice uses the phrase “a card issuing authority” and limitation 1(13) refers to “the card issuing authority,” which, per Samsung, could refer to either or both of the “a card issuing authority” elements introduced earlier in the claim. Pet., 40. Samsung is wrong. Antecedent basis issues simply do not automatically render claims indefinite. Far from it – they must be decided in context. *See, e.g., Energizer Holdings, Inc. v. International Trade*

Comm’n, 435 F.3d 1366, 1370 (Fed. Cir. 2006) (Whether a claim “despite lack of explicit antecedent basis” is indefinite “must be decided in context.”).

Here, the claim language is clear in context. Limitation 1(13) recites “wherein the card issuer authority is operable to permit the authentication transactions to complete.” Pet., vii. Samsung is correct that there are two instances earlier in the claim of “a card issuer authority,” but only *one* of them is operable to approve a transaction and permit it to be completed. Specifically, limitation 1(11) recites, “wherein a card issuer authority is operable to reject as invalid a transaction attempt . . .” while limitation 1(12) recites, “where a card issuer authority is operable to validate a card payment information as authentic . . .” Pet., vi.

Obviously, “the card issuer authority” that is “operable to permit the authentication transactions to complete” is the one that validated it (per limitation 1(12)) and not the one that rejected it (per limitation 1(13)).³ Samsung and its expert do not even attempt to parse or actually understand limitation 1(13). Samsung’s expert simply posits that there are two possibilities and therefore the claim is indefinite, seemingly without even considering the context. Ex. 1003, ¶ 139.

³ There is nothing in the claim that requires two separate card issuer authorities. They could be the same, in practice. However, limitation 1(13) clearly refers back to the authority that validated the transaction.

In sum, claim 1 is not ambiguous and Samsung's positions should be rejected.

2. Claim 4

Samsung's arguments about "a card issuer authority" in claim 4 make no sense in the framework of indefiniteness law. Pet., vii, 40. The claims say what they say; Patent Owner was not required to write claims using the word "said" or "the" or to otherwise refer back to "a card issuer authority" in claim 1.

The same is true with respect to the phrases "locked card device" and "locked card-users computing device." Samsung and its expert do not explain why these terms are indefinite. Claim 4 depends from claim 1, which itself recites both a "card device" and a user's "computing device." That should be more than enough for a POSITA to understand what locked devices are being referred to.

3. Claim 5

Claim 5 is not indefinite. Pet., 40-41. Claim 5, which depends from claim 1, refers to "the payment card device." *Id.*, vii. There is only one "payment card device in claim 1." It is "free of any fixed payment numbers" and "is operable for use in payment card reader equipment." Claim 5 introduces (using the word "an") an interface for the card device. There is nothing ambiguous about that. And, claim 5 explains that the card device has "information" on the interface; it simply is "free of any fixed payment numbers." Those two concepts are not inconsistent. Nor does an antecedent basis drafting issue, to the extent there is one, render an otherwise

contextually clear claim indefinite. *Energizer*, 435 F.3d at 1370. The rest of Samsung's argument on claim 5 is unintelligible.

4. Claim 6

Claim 6 is not indefinite.

First, the claim refers to “said transacted payment information.” Pet., vii. Samsung asserts that this is indefinite for lack of antecedent basis, but Claim 1, from which it depends, clearly refers to a payment transaction. *See id.*, 41. Indeed, it specifically recites that a “card issuer authority” can reject as invalid a “transaction attempt.” *Id.*, vi. It also recites that a card issuer authority can validate a card payment information. *Id.* The “transacted payment information” is the information that is “convey[ed],” as per limitation 1(10). *See id.*

Second, Samsung argues that the phrase “device transacted information” is indefinite, purportedly because it is unclear which “device” is being referenced. Pet., 41-42. Samsung makes the same argument as it concerns the phrase “valid range of device limitations.” But claim 1 recites a “computing device” which “is operable to convey limited-use card payment information.” *Id.*, vi. This is the *only* device in the claim that conveys payment information. Further, since this is a “payment system” claim and a card issuer authority can reject or validate “convey[ed]” payment information, the “transacted information” refers to the payment information that was conveyed in connection with the transaction. *Id.*, vi-vii. “Device transacted

information” therefore refers to the information conveyed by the “computing device” in connection with the transaction. There is no ambiguity.

Third, Samsung argues that claim 6 is indefinite because (like claim 1) it contains multiple instances of “a card issuer authority.” Pet., 42. But the claim language says what it is says. *Id.*, vii-viii. It is not indefinite just because a card issuer authority is recited twice. Nor does Samsung cite any law suggesting otherwise.

5. Claims 7-9

Samsung’s argument with respect to claims 7-9 strains credulity. Samsung and its expert argue that they don’t know what the term “transceive” means. Pet., 42. But, they know what a “transceiver” means, and the functions that a transceiver performs. *Id.* And, Samsung itself has used the term “transceive” in numerous of its own patents, including in claim language. *See, e.g.*, Ex. 2012, 15:62-67, 16:5, 17:4-8, 17:14, 17:62, 18:4, 19:50, 19:56, 20:36, 22:35, 26:26, 26:43, 28:4, 32:65; Ex. 2013, claims 3, 4, and 7; Ex. 2014 7:6, 12:66, 14:8, 14:67, 19:17-18, 48:49, 50:1, 60:46, 62:57, 68:46. Samsung cannot seriously assert that this term is indefinite after using the same term *ad nauseam* in its own patents.

6. Claim 12

Claim 12 requires that the “computing device is operable to reject and accept a user authorization to use the device based on the security challenge response.”

Pet., ix. Samsung asserts that this is indefinite because a computing device cannot both accept and reject the same user transaction. *Id.* 42-43. But this is not a method claim – it is a system claim. The computing device must be *operable to* both reject and accept a user authorization. This is not ambiguous or even unclear.

7. Claim 13

Claim 13 is not indefinite. Claim 13 adds further limitations to the computing device recited in claim 1. Pet., ix. Samsung does not dispute that. *See id.*, 43. Claim 13 then adds further limitations to that computing device. At most, Samsung points to a drafting error, but cannot plausibly allege (or cite any law) that the scope of the claim is indefinite.

8. Claim 15

Samsung asserts that the language in limitation 15(10) “when used in merchant in-store facility transactions” is “unclear.” Pet., 43-44. But, “unclear” does not equal indefinite as a matter of law. And, regardless, Samsung’s argument is largely incomprehensible. The limited-use information (provided by at least one or both of the payment card device and the computing device) is validated by a card issuing authority when it is used in merchant in-store facility transactions. *See id.*, x. The “limited-use payment information” is validated. That is clear from the English language and also the context of the claim.

Samsung further asserts that limitation 15(11) is indefinite because, as with claim 1, it is supposedly “unclear” to Samsung what the word “its” refers to. Pet., 44. The answer is the same as it is with respect to claim 1: “its valid limitations of use” refers to the “limited use payment information” introduced earlier in claim 15. *See supra* Section V.A.1. This is straightforward and clear from both the context of the claim and the specification (for the same reasons as it concerns claim 1).

9. Claim 17

Samsung repeats the argument it made with respect to claim 12. *See* Pet., 42-44. As with Claim 12, claim 17 is a system claim. *See supra* Section V.A.6. The “touch-screen display” is “operable to” accept both a user approval and a denial. It does not mean that it has to occur simultaneously as if this was a method claim requiring simultaneous performance.

10. Claim 19

Samsung argues that claim 19 is indefinite because it recites “The card device of claim 15” whereas claim 15 is directed to a “payment system.” Pet., 45. At most, this is a harmless typographical error. As Samsung knows, claim 15 recites “a payment card device.” *Id.*, ix. Claim 19 provides, “The card device of claim 15, wherein the payment card device comprises fixed payment information disposed thereon . . .” *Id.*, xi. It is perfectly clear from the context of claim 19 that it is

directed to further limitations on the “card device” element of claim 15, notwithstanding the typographical error.

B. Ground 3 – Alleged Lack of Enablement

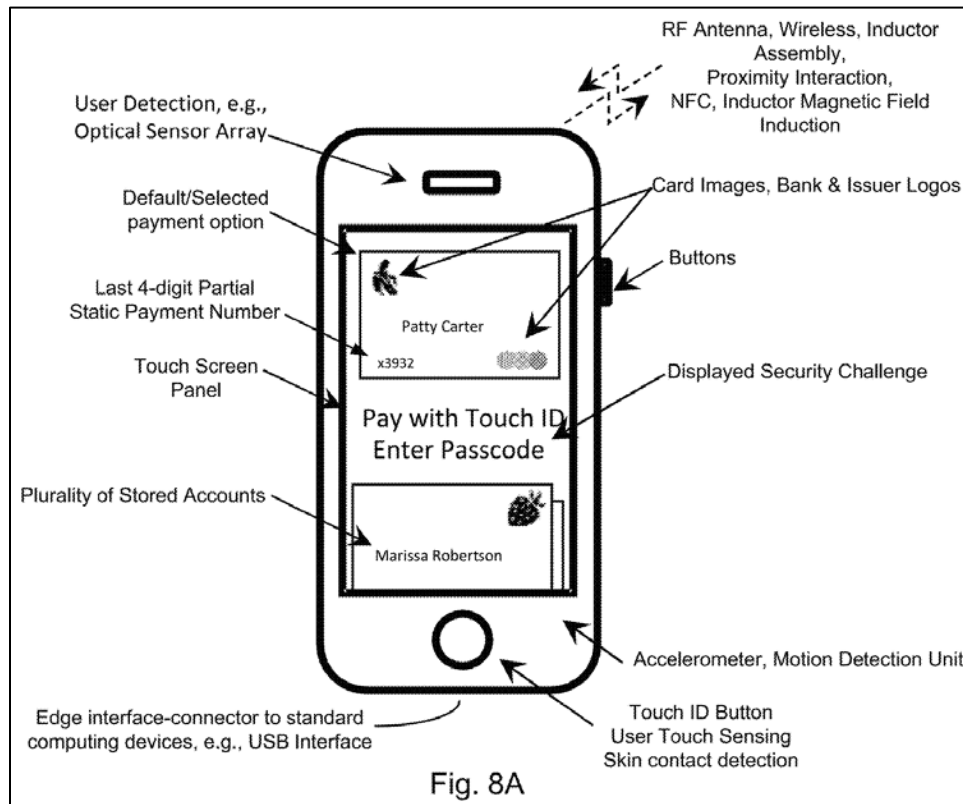
Samsung repackages its indefiniteness argument into an enablement position, asserting that claims 12-13 and 17 are not enabled because a POSITA would not know how to make a computing device that both accepts and rejects based on a user authorization. Pet., 45-46. This, again, misses the point, and treats these claims as if they are method claims where performance must be simultaneous. In each of these challenged claims, the relevant device simply has to be “operable to” accept and deny. *See id.*, ix-xi; *see also supra* Sections V.A.6-7, 9. There is nothing perplexing about that, nor does Samsung or its expert so argue.

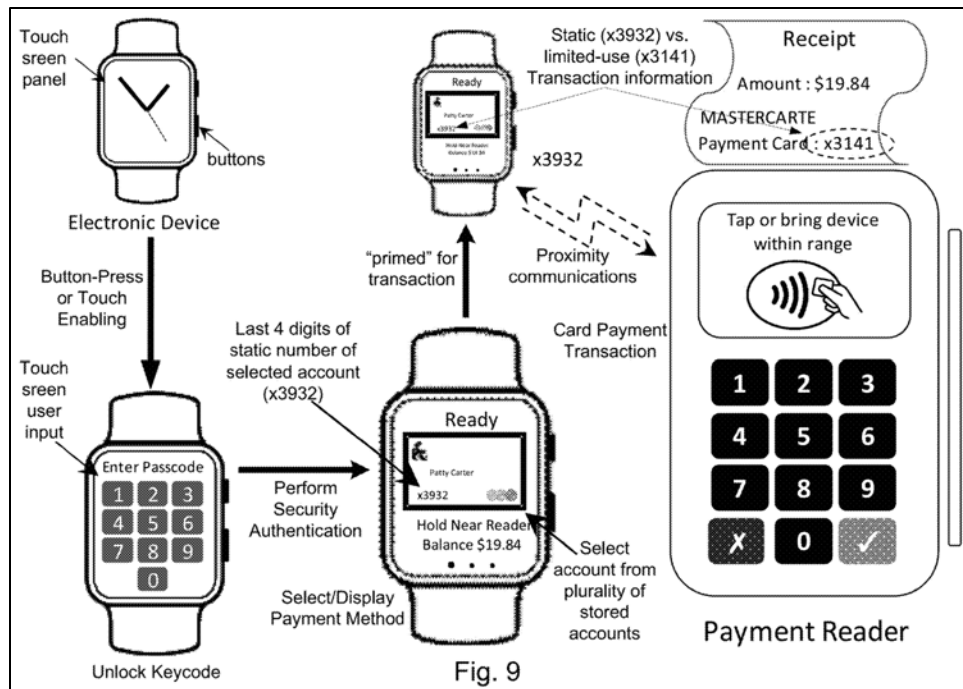
C. Ground 4 – Alleged Lack of Written Description

Samsung asserts that claim 20 (and its dependents) lack written description support. Pet., 46-48. Specifically, claim 20 requires, *inter alia*, “the computing device is operable to receive, store, display and transmit issuer-provided payment information, associated with, but not depicted on, the payment card device.” *Id.*, xii, 47. Samsung does not dispute that the rest of the claim is supported, or that most of this particular claim limitation is supported. But Samsung asserts that there is no support for the particular portion of the claim requiring a computing device that is “operable to . . . *display* . . . issuer provided payment information” that is “not

visible” or “not depicted on, the payment card device.” Samsung is wrong – the ’286 specification supports this limitation in multiple ways.

First, this is disclosed in Figures 8A and 9, which are reproduced below.





Ex. 1001, 10, 12.

Figures 8A and Figure 9 each disclose a portion of a “static” number associated with the payment card device. As per the specification, the payment card device itself can be free of fixed payment numbers. *See, e.g.*, Ex. 1001, Fig. 11; 11:43-46 (“Effectively, embodiments of the present disclosure provide a multi-function electronic device that has no fixed number, as illustrated in Fig. 11.”) The specification discloses that, in one embodiment, the payment card can be used to make online purchases. *Id.*, 12:56-13:1. The specification discloses means by which the card can communicate with a personal computer or other electronic device with a display. *Id.* This is shown, for example, in Figures 8A, and 9, showing a mobile phone and a smart watch, respectively. In each of these figures, the display includes a portion of the static number associated with the payment card device. This display

supports the disputed limitation of claim 20 when used in combination with the disclosed payment number-free card. In other words, Figures 8A and 9 each disclose a display showing payment information that is associated with the payment card device (the static payment number) but that is not visible on the payment card.

Second, the '286 patent (and the original application) incorporates by reference U.S. Patent No. 10,628,820, which itself supports the disputed limitation of claim 20. *See* Ex. 1001, 1:6-8; Ex. 1002, 487 ([0001]). For example, claim 11 of the '820 patent provides for a “thin payment device comprising no fixed payment numbers visible thereon” as well as a “personal computing device” comprising “a display operable to provide a visual user-interface operable for performing online transactions.” Ex. 2033, 22:10-35. The processor of the computing device is “operable to generate limited-use payment information *based on the card device payment account information.*” *Id.*, 22: 24-26 (emphasis added). Further, the personal computing device is “operable to generate complete payment information, including the limited-use payment information, and to convey said complete payment information via at least one interface of a set comprising: *said display[.]*” *Id.*, 22:27-31 (emphasis added). In other words, the computing device generates a limited use number based on the card device payment account information (which is not displayed, but is associated with the issuer-provided payment information). The computing device creates complete payment information based on the limited-

use number, and then is operable to display that information the display of the computing device. Claim 13 of the '820 patent further discloses that the limited-use number can be based on “a payment device account number” or “payment device issuer keys.” *See id.*, 22:40-67. This fully discloses the disputed limitation of claim 20. *See also id.*, 23:39-65 (claims 15-17 disclosing similar).

Third, this limitation is supported even with the '891 provisional application. The provisional explains that the problem with existing credit cards is that they are “susceptible to theft in some way...” Ex. 1012, 9 ([0005]). Further, cards employing “smart chips and RF technology” are not in use because the credit card infrastructure supports traditional plastic credit cards. *Id.* The provisional seeks to address these security problems within the traditional “credit card infrastructure.” *Id.*, 8 ([0002]). Accordingly, one of ordinary skill in the art would understand that the credit card of the disclosed invention includes payment information Paragraph 14 of the provisional explains that the “the number on the front of the can be a full or partial number” and that “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.” *Id.*, 12-13. In other words, the provisional discloses that there is certain “payment information associated with, but not depicted on, the payment card device,” as required by claim 20. That includes the portion of the primary account number that is not displayed on the card, as well as the expiration date and CVV

number, all of which would come from an issuer in a standard “credit card infrastructure.” *See id.*, 8 ([0002]).

Provisional paragraph 17 explains that the credit card of the present invention (i.e., the one with some issuer-provided payment information that is not visible on the card) “could also be used to make online purchases. Ex. 1012, 13-14. In this embodiment, 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.* As a person of ordinary skill (or, really, any lay person) would have understood, a personal computer has a “display.” *See* Ex. 2007, ¶ 65. And 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. *See also id.*, 16 (provisional claim 7 disclosing a “device” with a “display” that allows display of a “credit card number” “for user, merchant, bank, or credit card authority”); Ex. 2007, ¶ 65.

In the disclosed embodiment, the payment number would be the number “uniquely generate[d]” for online purchases. Ex. 1012, 13-14 ([0017]). The provisional further explains that the limited-use credit card number (i.e., the uniquely generated number) can be based on “credit card authority secrets” or the “user’s bank information.” *Id.*, 12 ([0014]), 16 (provisional claim 5). Accordingly, the uniquely

generated number that is displayed on the personal computer is “associated with” the payment card device, thus providing support for the disputed limitation of claim 20.

VI. 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 Samsung’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.⁴ *See, e.g., Nanya Tech. Corp. v. Monterey Research, LLC*, IPR2021-

⁴ As discussed above, Patent Owner respectfully submits that Samsung 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 likelihood” standard, those are minimal, at best, and denial is still warranted as explained in this section.

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 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

Samsung states that “[n]either party has moved for a stay.” Pet., 48. Not so. Shortly after filing this PGR petition, Samsung moved the district court to stay the Related Litigation pending the resolution of this PGR, which motion was *denied*, Ex. 2003, 1. Even if Samsung 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 later in mid-August 2024. Moreover, the district court is going to hear argument (and likely rule on) Samsung’s various indefiniteness arguments (many of which are overlapping, *see* Exs. 2006 & 2034), before the Board even rules on institution. 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).

Samsung 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., 48-49. 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 Samsung 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 favors 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 Samsung has Only Stipulated to Very Narrow Estoppel

Samsung, in its PGR Petition, offers only an extremely narrow stipulation to assert this factor favors institution. Pet., 49 (“Should PGR be instituted based on this Petition, Petitioner stipulates that 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.”).

With this stipulation, the likelihood of inefficiency and conflicting decisions is particularly significant because of the potential overlap of issues and because, with a *Markman* hearing scheduled for August 1, 2023, before institution, and trial beginning February 5, 2024, 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. *See* Ex. 2001, 1 & 3. Notably, Samsung has already asked the district court to consider many of the *same* indefiniteness arguments in district court, which that court will have considered during the claim construction phase (*i.e.*, before an institution decision here). *Compare* Pet., 39-45 *with* Exs. 2006 & 2034 (Samsung in district court seeking to find indefinite claims during claim construction).

Moreover, Samsung asserts additional grounds under Section 103 in a separate PGR petition challenging the same claims (PGR2023-00012). Thus, even

though it could have brought those challenges in a single PGR or agreed to full estoppel, it chose not to. Samsung should not be rewarded for doing so, and any stipulation, to be effective, should take into account Samsung's dual Petitions challenging the same claims.

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 considered) the same or substantially the same 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

Samsung does not address this factor. Pet., 49-50. 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 Samsung’s stipulation tips Factor 4 against discretionary denial, Patent Owner respectfully submits that it has no impact on the outcome, as this case would then be analogous to *Ericsson*. *See id.*

VII. CONCLUSION

As discussed above, Samsung as failed to show that the Challenged Claims of the '286 Patent are directed to patent-ineligible patent matter under 35 U.S.C. Section 101 or that they are invalid under 35 U.S.C. Section 112. The Board should, therefore, deny the Petition.

Dated: May 15, 2023

Respectfully submitted,

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/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 13,173 words, excluding the parts of the paper exempted by 37 C.F.R. §42.24(a).

Dated: May 15, 2023

Respectfully submitted,

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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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