

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: David Wyatt
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Title: MULTI-FUNCTION ELECTRONIC PAYMENT CARD AND
DEVICE SYSTEM

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PETITION FOR POST GRANT REVIEW OF U.S. PATENT NO. 11,328,286
PURSUANT TO 35 U.S.C. §§ 321–329

TABLE OF CONTENTS

I.	REQUIREMENTS FOR PGR.....	1
A.	Grounds for Standing.....	1
B.	The '286 patent is an AIA patent and therefore eligible for PGR.....	1
C.	Challenge and Relief Requested.....	6
D.	Claim Construction.....	7
1.	Claim limitations directed to printed matter are not entitled to patentable weight (claims 1, 5, 15, 19, 20)	7
2.	Additional non-limiting claim features	9
E.	Level of Ordinary Skill in the Art.....	9
II.	THE '286 PATENT.....	9
III.	THE CHALLENGED CLAIMS ARE UNPATENTABLE.....	12
A.	GROUND 1—Claims 1-27 Are Directed To Ineligible Subject Matter Under 35 U.S.C. §101.....	12
1.	The <i>Alice</i> Two-Step Subject-Matter Eligibility Test	13
2.	<i>Alice</i> Step 1—Representative Claim 1 Is Directed To The Abstract Idea of Facilitating a Secure Payment Transaction by Storing, Analyzing, and Transmitting Payment Information	15
3.	Like Representative Claim 1, Independent Claims 15 and 20 Are Directed To The Abstract Idea of Facilitating a Secure Payment Transaction by Storing, Analyzing, and Transmitting Payment Information.....	25
4.	Dependent Claims 2-14, 16-19, and 21-27 Too Are Substantially Linked To The Abstract Idea of Facilitating a Secure Payment Transaction by Storing, Analyzing, and Transmitting Payment Information.....	26
5.	The USPTO's Subject Matter Eligibility Guidance Confirms the Abstract Idea in the Challenged Claims.....	28
6.	<i>Alice</i> Step 2—Representative Claim 1 Does Not Provide An Inventive Concept That Amounts To Significantly More Than The Abstract Idea.....	30
7.	Like Representative Claim 1, Independent Claims 15 and 20 Do Not Provide An Inventive Concept That Amounts To Significantly More Than The Abstract Idea	33
8.	Dependent Claims 2-14, 16-19, and 21-27 Do Not Provide An Inventive Concept That Amounts To Significantly More Than The Abstract Idea.....	34

9.	The USPTO’s Subject Matter Eligibility Guidance Step 2B Confirms the Challenged Claims Do Not Amount To An Inventive Concept.....	38
B.	GROUND 2—Claims 1-19 Are Indefinite Under 35 U.S.C. §112.....	38
1.	Legal Framework	38
2.	Claims 1-19 are Indefinite.....	39
C.	GROUND 3—Claims 12-13 and 17 Are Invalid Under 35 U.S.C. §112 as Not Enabled	45
1.	Enablement Requirement	45
2.	Claims 12-13 and 17 are not Enabled	46
D.	GROUND 4—Claims 20-27 Are Invalid Under 35 U.S.C. §112 for Lack of Written Description	46
1.	Written Description Requirement	46
2.	Claims 20-27 Lack Written Description Support	47
IV.	DISCRETIONARY CONSIDERATIONS	48
V.	CONCLUSION AND FEES	50
VI.	MANDATORY NOTICES UNDER 37 C.F.R § 42.8(a)(1).....	50
A.	Real Party-In-Interest Under 37 C.F.R. § 42.8(b)(1).....	50
B.	Related Matters Under 37 C.F.R. § 42.8(b)(2)	50
C.	Lead And Back-Up Counsel Under 37 C.F.R. § 42.8(b)(3).....	51
D.	Service Information	51

EXHIBITS

SAMSUNG-1001	U.S. Patent No. 11,328,286 to Wyatt (“the ’286 patent”)
SAMSUNG-1002	Excerpts from the Prosecution History of the ’286 patent (“the Prosecution History”)
SAMSUNG-1003	Declaration and Curriculum Vitae of Dr. Shamos
SAMSUNG-1004	U.S. Pub. No. 2013/0232083 (“Smith”)
SAMSUNG-1005	U.S. Pub. No. 2013/0166441 (“Kobylkin”)
SAMSUNG-1006	U.S. Pub. No. 2005/0043997 (“Sahota”)
SAMSUNG-1007	PCT Pub. No. 2012/154915 (“Mullen”)
SAMSUNG-1008—1011	[RESERVED]
SAMSUNG-1012	U.S. Prov. No. 61/794,891 (“the ’286 provisional”)
SAMSUNG-1013—1014	[RESERVED]
SAMSUNG-1015	U.S. Pub. No. 2005/0144082 (“Coolman”)
SAMSUNG-1016	U.S. Patent No. 7,263,495 (“Rodriguez”)
SAMSUNG-1017	A. Rubin & R. Wright, Off-Line Generation of Limited-Use Credit Card Numbers, Financial Cryptography, 5th Int’l Conf., February 2001
SAMSUNG-1018	U.S. Pub. No. 2003/0226041 (“Palmer”)
SAMSUNG-1019	EMV Contactless Specifications for Payment Systems, Book C-2, Kernel 2 Specification, Version 2.1 (March 2011)
SAMSUNG-1020	EMV Contactless Specifications for Payment Systems, Book C-4, Kernel 4 Specification, Version 2.1 (March 2011)
SAMSUNG-1021	[RESERVED]

SAMSUNG-1022 PCI Data Security Standard (PCI DSS), Information
Supplement: PCI DSS E-commerce Guidelines (January 2013)

SAMSUNG-1023-1024 [RESERVED]

SAMSUNG-1025 Kadambi et al., *Near-Field Communication-Based Secure
Mobile Payment Service*, ACM 11th International Conference
on Electronic Commerce 2009

SAMSUNG-1026 PCI Data Security Standard, Navigating PCI DSS:
Understanding the Intent of the Requirements, Version 2.0
(October 2010)

SAMSUNG-1027-1028 [RESERVED]

SAMSUNG-1029 Todd Wasserman, *New Credit Card has LCD Screen, Touch-
Sensitive Buttons*, The Sydney Morning Herald (Nov. 9, 2012)

SAMSUNG-1030 PCI Data Security Standard (PCI DSS), Information
Supplement: PCI DSS Tokenization Guidelines, Version 2.0
(August 2011)

SAMSUNG-1031—1099 [RESERVED]

SAMSUNG-1100 Complaint for Patent Infringement, *Cardware Inc. v.
Samsung Electronics Co., Ltd. et al.*, Case No. 2:22-cv-
00141 (E.D. Tex. May 11, 2022)

SAMSUNG-1101 Interim Procedure for Discretionary Denials in AIA Post-
Grant Proceedings with Parallel District Court Litigation
(June 21, 2022)

SAMSUNG-1102 Exhibit E to CardWare Inc.’s P.R. 3-1 Disclosure of
Asserted Claims and Infringement Contentions, *Cardware
Inc. v. Samsung Electronics Co., Ltd. et al.*, Case No. 2:22-
cv-00141 (E.D. Tex. (Sept. 8, 2022)

SAMSUNG-1103 United States District Courts National Judicial Caseload
Profile, *available at*

https://www.uscourts.gov/sites/default/files/fcms_na_distprofile0630.2022_0.pdf (retrieved November 11, 2022)

- SAMSUNG-1104 Sample Docket Control Order for Patent Cases, *Cardware Inc. v. Samsung Electronics Co., Ltd. et al.*, Case No. 2:22-cv-00141 (E.D. Tex.)
- SAMSUNG-1105 Plaintiff CardWare Inc's Disclosure of Asserted Claims and Infringement Contentions, *Cardware Inc. v. Samsung Electronics Co., Ltd. et al.*, Case No. 2:22-cv-00141 (E.D. Tex. (Sept. 8, 2022))

LIST OF CHALLENGED CLAIMS

Claim Element	Claim Language
[1.0]	A payment system comprising:
[1.1]	a payment card device free of any fixed payment numbers visible thereon and wherein said payment card device is operable for use in payment card reader equipment; and
[1.2]	a computing device comprising a processor;
[1.3]	a memory;
[1.4]	a wireless interface;
[1.5]	a touch-screen user interface operable to provide a visual user-interface for user payment interactions; and
[1.6]	a user-input device coupled to the processor, and
[1.7]	wherein the processor is operable to store a transaction sequence count, a device account number and secrets limited to the computing device, and
[1.8]	wherein the computing device is operable to receive, store and transmit a card payment information not visible on the payment card device, and
[1.9]	wherein the processor is operable to generate at least a portion of a limited-use card payment information for use by an authenticated card user, and
[1.10]	wherein the computing device is operable to convey said limited-use card payment information via an interface of the computing device, and
[1.11]	wherein a card issuer authority is operable to reject as invalid a transaction attempt outside of its limitations of use,
[1.12]	wherein a card issuer authority is operable to validate a card payment information as authentic when received from at least one of an

Claim Element	Claim Language
	authenticated users payment card; and an authenticated users computing device,
[1.13]	and wherein the card issuer authority is operable to permit the authentic transactions to complete.
[2.0]	The system of claim 1, wherein the touch-screen user interface is operable to control an access for payment transactions by the card device, and is operable to enable as authentic payment transactions by the card device.
[3.0]	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.
[4.0]	The system of claim 3, wherein the touch-screen user-interface is configurable for a locking and unlocking of payment transactions, and
[4.1]	wherein a card issuer authority is further operable for denying a payment transaction from at least one of: a locked card device; and a locked card-users computing device, and
[4.2]	wherein a card issuer authority is further operable to permit as authorized, a card payment transaction from an unlocked device.
[5.0]	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.
[6.0]	A system of claim 1, wherein:
[6.1]	the card issuer authority is operable to receive said transacted payment information, and
[6.2]	wherein a card issuer authority is operable to compute a limited-use payment information from a transaction information, a merchant, a

Claim Element	Claim Language
	facility information, a sequence counter, a payment card account information, secrets and an information limited to said card device and to said computing device, and
[6.3]	wherein a card issuer authority is operable to compare said computed payment information to said device transacted information, and
[6.4]	wherein a card issuer authority is operable to reject as invalid a device transaction used outside of a valid range of device limitations, and
[6.5]	wherein a card issuer authority is operable to authenticate as valid, a device transaction use within valid range of device limitations.
[7.0]	The system of claim 1, wherein the computing device is further operable to transceive the card payment information via the wireless interface for completing an online transaction.
[8.0]	The system of claim 1, wherein the computing device is further operable to transceive the limited-use card payment information via an NFC interface of the computing device in an in-store NFC reader facility transaction.
[9.0]	The system of claim 1, wherein the computing device is further operable to transceive the limited-use payment information wirelessly with another device via a wireless interface of the computing device, in a device-to-device transaction.
[10.0]	The system of claim 1, wherein the computing device is further operable to transmit a payment information visually, in alphanumeric, graphical and iconography via the touch screen user interface.
[11.0]	The system of claim 1, further comprising a touch-screen user interface control for a user approving and denying a transaction, and
[11.1]	wherein a card issuer authority is further operable to deny as authentic, a card payment transaction from a user-denied transaction, and to approve as authentic a card payment transaction from a user-approved transaction.

Claim Element	Claim Language
[12.0]	The system of claim 1, wherein the computing device is further operable to present at least one challenge, of a set of security challenges comprising: a card user personal information question, a card issuer authority security question, a user touch-screen entry, a user touch-screen swipe, a user gesture of a device, a user passcode entry, a biometric sensing of a user touch, a biometric sensing of a recognized user proximity, and a biometric sensing of a recognized user, and
[12.1]	wherein the computing device is operable to reject and accept a user authorization to use the device based on the security challenge response, and
[12.2]	wherein the computing device is operable to decline performing a payment transaction in the possession of an unauthorized user, and
[12.3]	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.
[13.0]	The user computing device of claim 12, wherein a payment issuing authority is operable to decline transactions performed by the computing device when a user fails the at least one security challenge.
[14.0]	The system of claim 1, wherein a payment issuing authority is operable to decline transactions performed by the payment card device when a user fails at least one security challenge presented to a user by the computing device.
[15.0]	A payment system comprising:
[15.1]	a payment card device that is free of any fixed payment numbers disposed thereon and wherein said payment card device is operable for use in a merchant card-reader equipment; and
[15.2]	a card-users personal computing device operable for completing a payment transaction and comprising a processor;
[15.3]	a touch-screen display interface;

Claim Element	Claim Language
[15.4]	a user-interface;
[15.5]	a wireless interface; and
[15.6]	a memory for storing a payment information accessible to the processor,
[15.7]	wherein the computing device is configured to dynamically generate limited-use payment information, and
[15.8]	wherein the computing device is configured to convey the limited-use payment information on a computing device interface upon the authorization of a valid user, and
[15.9]	wherein a merchant is operable to receive a payment information provided by a personal computing device, and
[15.10]	wherein the limited-use payment 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 used in merchant in-store facility transactions, and
[15.11]	wherein a card issuing authority is operable to reject as invalid, a payment information used outside of its valid limitations of use, and
[15.12]	wherein a card issuing authority is operable to validate generated limited-use payment information provided by the computing device in an authorized transaction completed by the computing device.
[16.0]	The system of claim 15, wherein the touch-screen user interface is operable for displaying the limited-use payment information, and
[16.1]	wherein a merchant is operable to accept the displayed payment card information in a transaction at a merchant facility.
[17.0]	The system of claim 15, wherein the touch-screen display interface is operable to display a merchant facility transaction, and
[17.1]	wherein the touch-screen display interface is operable to accept a user approval and denial of a payment transaction, and

Claim Element	Claim Language
[17.2]	wherein a card issuer authority is further operable to deny a card payment transaction from a user-denied merchant facility transaction, and to approve as authentic a card payment transaction from a user-approved facility transaction.
[18.0]	The system of claim 15, wherein a plurality of issuer-provided payment information is wirelessly downloaded into the personal computing device, and
[18.1]	wherein the user-interface is operable for a user selection, of at least one of issuer-provided payment methods via the touch-screen display interface, and
[18.2]	wherein the payment card device is operable for a transaction with a user-selected payment method.
[19.0]	The card device of claim 15, wherein the payment card device comprises fixed payment information disposed thereon, and
[19.1]	wherein the fixed payment information comprises only: a card-holder name; a payment issuing logo; a card payment network logo, and a card reader interface icon, and
[19.2]	wherein the payment card device is free of any account numbers, expiration dates, card security codes, or other fixed payment numbers, disposed thereon.
[20.0]	A payment system comprising:
[20.1]	a payment card device, free of any depictions of fixed payment numbers thereon, and operable for use in payment card reader equipment; and
[20.2]	a computing device comprising a processor;
[20.3]	a memory;
[20.4]	a wireless interface;

Claim Element	Claim Language
[20.5]	a touch-screen user interface operable to provide a visual user-interface for user payment interactions; and
[20.6]	a user-input device coupled to the processor; and
[20.7]	wherein the memory is operable to store a transaction sequence count, a static device account number and secrets limited to the computing device;
[20.8]	wherein 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;
[20.9a]	wherein the processor is operable to dynamically generate at least a portion of a limited-use payment information for use by an authenticated card user, and
[20.9b]	to combine said at least a portion of the limited-use payment information with at least said static device account number to create combined payment information;
[20.10]	wherein the computing device is operable to convey said combined payment information via an interface of the computing device; and
[20.11]	wherein the computing device is operable to receive information, from an issuer, in response to the conveyed combined payment information, indicating that a payment transaction is valid.
[21.0]	The system of claim 20 wherein the computing device is operable to wirelessly receive the static device account number.
[22.0]	The system of claim 20, wherein the processor is operable to dynamically generate the at least a portion of a limited-use payment information based on a transaction sequence counter count, and further wherein the generated limited-use payment information is valid for a single use.

Claim Element	Claim Language
[23.0]	The system of claim 22 wherein the processor is operable to dynamically generate the at least a portion of a limited-use payment information further based on payment processing authority secrets.
[24.0]	The system of claim 23 wherein the processor is operable to dynamically generate the at least a portion of a limited-use payment information further based on the static device account number.
[25.0]	The system of claim 24 wherein the computing device is operable to wirelessly receive the static device account number.
[26.0]	The system of claim 22 wherein the processor is operable to dynamically generate the at least a portion of a limited-use payment information further based on the static device account number.
[27.0]	[27.0] The system of claim 26 wherein the computing device is operable to wirelessly receive the static device account number.

Samsung Electronics Co., Ltd. (“Petitioner” or “Samsung”) petitions for Post Grant Review (“PGR”) of claims 1-27 (“the Challenged Claims”) of U.S. Patent No. 11,328,286 (“the ’286 patent”).

I. REQUIREMENTS FOR PGR

A. Grounds for Standing

Petitioner certifies that the ’286 patent is available for PGR. In particular, the present Petition is being filed less than 9 months after the issue date of the ’286 patent (May 10, 2022). 35 U.S.C. § 321(c).

In addition, the present Petition is being filed within one year of service of a complaint against Samsung alleging infringement of the ’286 patent. SAMSUNG-1100. Samsung is not barred or estopped from requesting review of the Challenged Claims on the below-identified grounds.

B. The ’286 patent is an AIA patent and therefore eligible for PGR

In order to be eligible for PGR, the ’286 patent must be subject to the first-inventor-to-file provisions of the AIA. *Leahy-Smith America Invents Act*, Pub. L. No. 112–29, 125 Stat. 284 (September 16, 2011) (“AIA”), §6(f)(2)(A); *Tricam v. Little Giant Ladder*, PGR2021-00044, Paper 10 p. 14 (PTAB August 3, 2021) (“*Tricam*”). In order to be subject to the first-inventor-to-file provisions of the AIA, Petitioner must show that the ’286 patent contains or contained at any time “a

claim that lacks written description and enabling support in a priority application filed before March 16, 2013.” *Tricam*, 15. As discussed below, multiple claims of the ’286 patent lack such support. The ’286 patent is thus subject to the first-inventor-to-file provisions of the AIA, and therefore eligible for PGR. *See id.*

The ’286 patent claims priority, through a string of continuations, to U.S. Provisional App. No. 61/794,891 (SAMSUNG-1012, the “’286 provisional”), which was filed March 15, 2013. But the ’286 provisional does not disclose or otherwise reasonably convey at least the claim features listed in the table below. SAMSUNG-1003, ¶¶39-46, 174.

Claim	Unsupported Language
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.”
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.”
6	“A system of claim 1, wherein: the card issuer authority is operable to receive said transacted payment information, and wherein a card issuer authority is operable to compute a limited-use payment information from a transaction information, a merchant, a facility information, a sequence counter, a payment card account information, secrets and an information limited to said card device and to said computing device, and wherein a card issuer authority is operable to compare said computed payment information to said device transacted information, and wherein a card issuer authority is operable to reject as invalid a device transaction used outside of a valid range of device limitations,

Claim	Unsupported Language
	and wherein a card issuer authority is operable to authenticate as valid, a device transaction use within valid range of device limitations.”
12	“The system of claim 1, wherein the computing device is further operable to present at least one challenge, of a set of security challenges comprising: a card user personal information question, a card issuer authority security question, a user touch-screen entry, a user touch-screen swipe, a user gesture of a device, a user passcode entry, a biometric sensing of a user touch, a biometric sensing of a recognized user proximity, and a biometric sensing of a recognized user, and wherein the computing device is operable to reject and accept a user authorization to use the device based on the security challenge response, and wherein the computing device is operable to decline performing a payment transaction 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.”
15	“wherein a card issuing authority is operable to reject as invalid, a payment information used outside of its valid limitations of use, and wherein a card issuing authority is operable to validate generated limited-use payment information provided by the computing device in an authorized transaction completed by the computing device.”
20	“wherein the computing device is operable to receive, store, <i>display</i> and transmit issuer-provided payment information, associated with, but not depicted on, the payment card device.”

For example, with respect to claim 3, the provisional application briefly mentions that “[o]ne type of credit card in circulation employs radio frequency (“RF”) identification where there is a near field radio frequency.” SAMSUNG-1012, [0004]. The provisional application later describes 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.” *Id.*, [0017]. There is

no other discussion of near field communication or “NFC” in the provisional application. Claim 3’s recitation of “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” is therefore not supported by the provisional application. SAMSUNG-1003, ¶40. Additionally, there is no disclosure in the provisional application of using touch-screen input to control enabling or disabling of any payment transaction functionality regardless of the communication method used. *Id.*

As another example, the provisional application does not describe limiting the field of use of the payment card device to in-store card reader facility use only, to the exclusion of online transactions and therefore lacks support for claim 5. SAMSUNG-1003, ¶41. Rather than limiting the use to in-store transactions to the exclusion of online transactions, the provisional application states, “the credit card of the present invention could also be used to make online purchases.” SAMSUNG-1012, [0017].

Regarding claim 6, the provisional application includes a single discussion of “wherein the time, sequence, user, credit card authority and other 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.” SAMSUNG-1012, claim 6. The provisional does not provide support for

challenged claim 6 because it does not disclose generating a limited-use number “from a transaction information, *a merchant*, a *facility information*, a sequence counter, a payment card account information, secrets and an information *limited to said card device and to said computing device*.” SAMSUNG-1003, ¶42. There is also no disclosure of “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” as recited by challenged claim 6. SAMSUNG-1003, ¶42.

With respect to claim 12, the provisional application describes “ask[ing] the user a security question if an improper password is entered” but does not provide support for all of the “security challenges” recited by claim 12. SAMSUNG-1003, ¶43. There is also no disclosure in the ’286 Provisional of “wherein the computing device is operable to reject and accept a user authorization to use the device based on the security challenge response, and wherein the computing device is operable to decline performing a payment transaction 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.” The provisional application describes a security question being presented “if an improper password is entered” but does provide details on actions

performed in response to a correct or incorrect answer to the security question.

SAMSUNG-1012, [0016]; SAMSUNG-1003, ¶43.

There is also no support for claim 15’s recitation of “a card issuing authority is operable to reject as invalid, a payment information used outside of its valid limitations of use.” The provisional briefly mentions that a “credit card processing facility” authenticates the transaction but does not describe the “credit card processing facility” as being a card issuing authority or as performing the precise functionality recited by Elements 15.11 and 15.12. SAMSUNG-1012, claim 6; SAMSUNG-1003, ¶44.

The ’286 provisional thus does not provide support for at least these claims of the ’286 patent. No other application in the priority chain of the ’286 patent was filed prior to March, 16, 2013. Accordingly, the claims listed above “lack[] written description and enabling support in a priority application filed before March 16, 2013.” *Tricam*, 15. Additionally, claim 20 lacks written description support from the ’286 provisional (or the specification as filed) as explained in section III.D.2, *infra*. SAMSUNG-1003, ¶¶45, 174. The ’286 patent is thus subject to the first-inventor-to-file provisions of the AIA, and is therefore eligible for PGR. *Tricam*, 15.

C. Challenge and Relief Requested

Samsung requests a PGR of the Challenged Claims on the grounds noted

below. Dr. Shamos provides supporting testimony in his Declaration.

SAMSUNG-1003, ¶¶1-176.

Ground	Claim(s)	35 U.S.C. § 102/103
1	1-27	§101: Ineligible Subject Matter
2	1-19	§112: Indefinite
3	12-13, 17	§112: Not Enabled
4	20-27	§112: Lack of Written Description

D. Claim Construction

All claim terms should be construed according to the *Phillips* standard.

Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005); 37 C.F.R. §42.100.

Besides the specific constructions described below, no formal claim constructions are presently necessary since “claim terms need only be construed to the extent necessary to resolve the controversy.” *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011); SAMSUNG-1003, ¶¶87-90.

Petitioner reserves the right to respond to any constructions offered by Patent Owner or adopted by the Board in accordance with due process.

Furthermore, Petitioner is not conceding that the Challenged Claims satisfy all statutory requirements including those under 35 U.S.C. § 112.

1. Claim limitations directed to printed matter are not entitled to patentable weight (claims 1, 5, 15, 19, 20)

The Challenged Claims include several limitations that are directed to printed matter that has no functional or structural relationship to the claimed

substrate on which the information is disposed or printed. The Federal Circuit has repeatedly found that such claim limitations are entitled to no patentable weight, and thus “will not distinguish the invention from the prior art in terms of patentability.” *In re Gulack*, 703 F. 2d 1381, 1385 (Fed. Cir. 1983); *see, e.g., In re DiStefano*, 808 F. 3d 845, 848-851 (Fed. Cir. 2015). This applies equally to subject matter eligibility under § 101 because “[n]o patentable weight means no patentable weight.” *Praxair Distribution, Inc. v. Mallinckrodt Hosp. Prod. IP Ltd.*, 890 F.3d 1024, 1035 (Fed. Cir. 2018).

The following table identifies limitations from the Challenged Claims that are directed to printed matter, and thus are entitled to no patentable weight.

Claim	Language
1	“free of any fixed payment numbers visible thereon” / “a card payment information not visible on the payment card device”
5	“wherein the payment card device is absent a payment number information necessary for completing an online transaction”
15	“free of any fixed payment numbers disposed thereon”
19	“wherein the payment card device comprises fixed payment information disposed thereon, and wherein the fixed payment information comprises only: a card-holder name; a payment issuing logo; a card payment network logo, and a card reader interface icon, and wherein the payment card device is free of any account numbers, expiration dates, card security codes, or other fixed payment numbers, disposed thereon.”
20	“free of any depictions of fixed payment numbers thereon”

2. Additional non-limiting claim features

The features recited in claim elements [1.12], [1.13], [6.0]-[6.4], [11.1], [13.0], [14.0], [15.11], [15.12], and [17.2] are not limiting as they do not define further limitations of the recited payment devices and systems. For example, element [1.12] recites, in relevant part, “wherein a card issuer authority is operable to validate a card payment information as authentic[.]” But the “card issuer authority” in this claim element is not recited as being included in the “payment system” to which claim 1 is directed. Thus, the language describing a function the card issuer authority “is operable” to perform does not limit any aspect of the claimed payment system, and thus does not affect the scope of the claim.

E. Level of Ordinary Skill in the Art

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 technologies. SAMSUNG-1003, ¶¶46-61. Additional education could substitute for professional experience, or vice versa. *Id.*

II. THE ’286 PATENT

The ’286 patent specification generally describes an electronic payment card capable of generating a “limited-duration number” for use in a payment

transaction. SAMSUNG-1001, 2:33-39, 2:57-3:5, 10:63-12:55, FIG. 7;

SAMSUNG-1003, ¶¶34-37. Figure 7 depicts a flowchart of a process for generating and using a limited-duration number in a transaction:

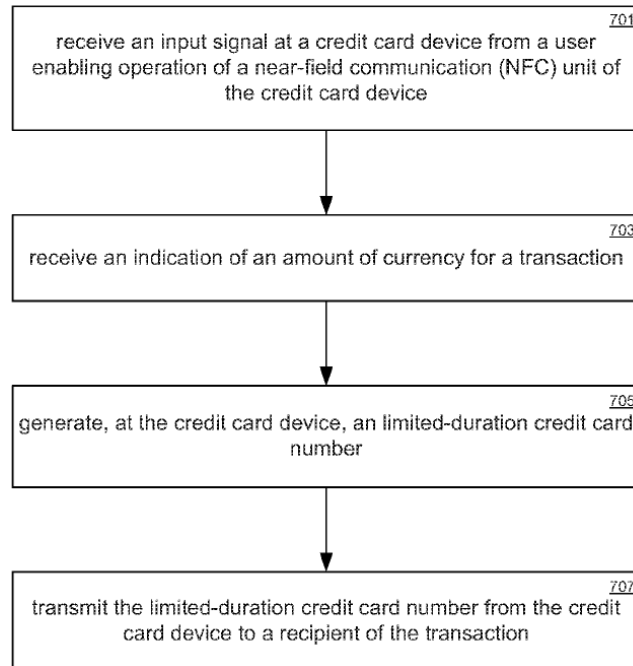


FIG. 7

SAMSUNG-1001, FIG. 7. As can be seen from FIG. 7, the '286 patent describes well-known, routine computing functions of receiving, generating, and transmitting information. SAMSUNG-1003, ¶¶35, 37, 92-95, 99-101, 104-106, 135. The independent claims (claims 1, 15, and 20) largely mirror this high-level functionality described with respect to Claim 7 without providing any additional details on how the generating of “limited-use card payment information” is to be performed. *Id.*

According to the specification, “[t]he multi-function electronic device

comprises a real-time clock that is able to produce a cryptographically protected timestamp for each interaction.” SAMSUNG-1001, 10:66-11:2. “The power source is able to activate the processor unit such that a unique number may be generated by the multi-function electronic device and verified by the credit authority according to the timestamp and the transmitted user information.” *Id.*, 11:3-6. “The limited duration credit card number is able to be produced at the time the multi-function electronic device is performing a transaction.” *Id.*, 11:6-11. The ’286 patent describes that such a limited duration credit card “is able to be generated according to the user’s private information, a bank information, information regarding the facility performing the transaction, and the time of day” but does not provide any details or equations on how to use such factors in generating a limited duration credit card number, indicating that such number generation would have been readily known and understood by a POSITA. *Id.*; SAMSUNG-1003, ¶¶36, 103-109, 132. The ’286 patent further describes that the “limited-duration credit card number is able to be limited to only one transaction, a finite number of transactions, or may be limited to a specified period of time—e.g., 2 minutes, 10 minutes, 3 hours—after which time that particular limited-duration number would become invalid.” *Id.*, 11:11-16. However, as discussed below, the independent claims of the ’286 patent do not recite such functionality and additional such functions were routine computing functions well-known in the

field of computer implemented financial transactions. SAMSUNG-1003, ¶¶36, 76-81, 103-104, 135.

While the '286 patent specification describes some technical functionality of “a multi-function electronic device,” such as “generating a programmed magnetic field of alternating polarity based on a speed of a card swipe,” these features appear nowhere in the claims. SAMSUNG-1001, 2:22-26; SAMSUNG-1003, ¶¶34, 37. Rather, the claims are directed toward well-known, high-level computer functionality of storing, analyzing, and transmitting data, as described in greater detail below.

III. THE CHALLENGED CLAIMS ARE UNPATENTABLE

A. GROUND 1—Claims 1-27 Are Directed To Ineligible Subject Matter Under 35 U.S.C. §101

The Challenged Claims are patent-ineligible under § 101 because (1) they are directed to the abstract idea of facilitating secure payment transactions by storing, analyzing, and transmitting payment information and (2) there is nothing in the Challenged Claims that would rise to the level of an “inventive concept” that could transform the abstract idea into patent-eligible subject matter. Accordingly, the Challenged Claims fail *Alice* Step 1 and *Alice* Step 2 and the Guidance issued by the Office.

1. The *Alice* Two-Step Subject-Matter Eligibility Test

A claimed invention is patent-eligible only if it is a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court recognizes three judicial exceptions that are not eligible for patent protection: laws of nature, physical phenomena, and abstract ideas. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70–71 (2012) (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)); *Alice Corp., Pty. v. CLS Bank Int’l*, 573 U.S. 208, 218 (2014). In *Mayo* and *Alice*, the Supreme Court articulated a two-step subject-matter eligibility test. *Mayo*, 566 U.S. at 77-78; *Alice*, 573 U.S. at 217.

The first step of the *Alice/Mayo* test asks whether a claim is directed to a judicial exception, such as an abstract idea. *Alice*, 573 U.S. at 217 (“*Alice* Step 1”). “[T]he claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *Internet Pats. Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)).

If the claims are directed to patent-ineligible subject matter, step 2 of the *Alice* test requires a court to “examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (quoting

Mayo Collaborative Servs. v. Prometheus Labs., Inc., 566 U.S. 66, 72, 78–79

(2012)) (“*Alice* Step 2”). This inventive concept must do more than simply recite “well-understood, routine, conventional activity.” *Mayo*, 566 U.S. at 79–80.

The Office issued Guidance regarding subject matter eligibility and the *Alice/Mayo* two-step test. MPEP §2106 (9th ed. Rev. 10.2019, June 2020). Step 1 of the Guidance examines whether the claimed subject matter falls within one of the four statutory categories of invention. (“Guidance Step 1”) MPEP §2106.03. If the claim is so directed, the analysis moves to Step 2A, Prong 1 to determine if the claim recites an abstract idea that falls within the subject matter groups of abstract ideas: (a) mathematical concepts; (b) certain methods of organizing human activity such as a fundamental economic practice; and (c) mental processes. (“Guidance Step 2A, Prong 1”) MPEP §2106.04 II.A.1, §2106.04(a); 2019 *Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. at 50 (Jan. 7, 2019) (“2019 Guidance”). If the claim recites such an abstract idea, the analysis moves to Step 2A, Prong 2, which asks whether the recited abstract idea is integrated into a practical application. (“Guidance Step 2A, Prong 2”) MPEP §2106.04 II.A.2. Finally, Step 2B of the Guidance requires evaluating whether the claim recites additional elements that provide an “inventive concept” that amounts to significantly more than the abstract idea itself. (“Guidance Step 2B”) MPEP §

2106 II. Accordingly, Guidance Step 2A covers *Alice* Step 1 and Guidance Step 2B relates to *Alice* Step 2.

2. *Alice* Step 1—Representative Claim 1 Is Directed To The Abstract Idea of Facilitating a Secure Payment Transaction by Storing, Analyzing, and Transmitting Payment Information

Representative Claim 1 embodies payment transactions that are fundamental economic practices amounting to organizing human activity and mental steps, without improving any underlying technology. The Federal Circuit has deemed such patent claims to be patent-ineligible. *See Universal Secure Registry v. Apple, Inc.*, 10 F.4th 1342, 1349 (Fed. Cir. 2021) (“*USR*”). For example, in *USR*, the claims-at-issue “enable[ed] a transaction between a user and a merchant, where the merchant is given a time-varying code instead of the user’s secure (credit card) information” thereby allowing for the “purchasing [of] goods or services without revealing personal financial information to a merchant”:

(1) “**receiving**” a transaction request with a time-varying multicharacter code and “an indication of” the merchant requesting the transaction; (2) “**mapping**” the time-varying multicharacter code to the identity of the customer in question; (3) “**determining**” whether the merchant’s access to the customer’s secure data complies with any restrictions; (4) “**accessing**” the customer’s account information; (5) “**providing**” the account identifying information to a third party without providing that information to the merchant; and (6) “**enabling or denying**” the merchant to perform the transaction without obtaining knowledge of the customer’s identifying information.

Id. at 1348-49 (emphases added). The Federal Circuit held that “receiving a transaction request, verifying the identity of a customer and merchant, [and] allowing a transaction” are directed to an abstract idea because “the claims simply recite conventional actions in a generic way” and “do not purport to improve any underlying technology.” *Id.* It was not enough for patent-eligibility purposes that the recited “time-varying” code was “used to access a database that indicates any restrictions on the user’s transactions with the merchant and also allows a third party or credit card company to approve or deny the transaction based on the secure information without the provider gaining access to the secure information.” *Id.*

Similar to the patent-ineligible claims related to secure payment transactions using “time-varying” information in *USR*, Representative Claim 1 is directed to secure payment transactions using payment information, such as “limited use” information. In particular, Representative Claim 1 concerns payment transactions using substitute payment information that is available for a “limited use” in place of, e.g., a credit card number, and conveying and validating that substitute information prior to completing a transaction:

Claim 1 Limitations	Description
[1.1] – [1.6] A payment system comprising: a payment card device free of any fixed payment numbers visible thereon and wherein said payment card device is operable for use in payment card reader equipment; and	Generic and conventional computer components

a computing device comprising: a processor; a memory; a wireless interface; a touch-screen user interface operable to provide a visual user-interface for user payment interactions; and a user-input device coupled to the processor, and	
[1.7] wherein the processor is operable to store a transaction sequence count, a device account number and secrets limited to the computing device, and	Storing payment transaction related information
[1.8] wherein the computing device is operable to receive, store and transmit a card payment information not visible on the payment card device, and	Receiving, storing, and transmitting payment information
[1.9] 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, and	Generating payment information
[1.10] wherein the computing device is operable to convey said limited-use card payment information via an interface of the computing device, and	Transmitting payment information
[1.11] wherein a card issuer authority is operable to reject as invalid a transaction attempt outside of its limitations of use,	Analyzing payment information
[1.12] wherein a card issuer authority is operable to validate a card payment information as authentic when received from at least one of: an authenticated users payment card; and an authenticated users computing device, and	Analyzing payment information
[1.13] wherein the card issuer authority is operable to permit the authentic transactions to complete.	Analyzing payment information to authorize and complete a payment transaction

SAMSUNG-1003, ¶¶99-101, 135.

As illustrated, Representative Claim 1 enables secure payment transactions by storing, analyzing, and transmitting payment information, such as “transaction

sequence count,” “device account number,” “secrets limited to the computing device,” “card payment information,” and “limited-use card payment information.” For example, based on the ’286 patent, the “limited-use” information can be any information used in place of a bank issued payment number. SAMSUNG-1001, 2:33-37, 3:6-16; SAMSUNG-1003, ¶¶91, 106.

In addition, the ’286 patent discusses a “limited-duration credit card number” that can be “generated according to the selected account, a timestamp, a transaction amount, an indicated merchant, user key or secrets, on-card unique hardware secrets, credit card authority key or secrets, user input from the card interface, and other information associated with the transaction.” SAMSUNG-1001, 7:56-63. Yet the ’286 patent discloses no formulas or instructions on how to generate the limited-duration credit card number using such information, indicating that such information and processes would have been well-known and understood by a POSITA. SAMSUNG-1003, ¶¶36, 103-109, 132. Thus, this disclosure informs that the “limited-duration credit card number” is a “collection of conventional data combined in a conventional way that achieves only expected results.” *USR*, 10 F.4th at 1352 (“[T]he claimed ‘encrypted authentication data’ here is merely a collection of conventional data combined in a conventional way that achieves only expected results.”); *Elec. Comm’n Techs., LLC v. ShoppersChoice.com, LLC*, 958 F.3d 1178, 1181-82 (Fed. Cir. 2020) (“As the

patent specification explains, the ‘authentication information’ can be essentially any information recognizable to the party being contacted...Businesses have long been supplying customers with order numbers and recording customer information—such as the client’s name, address, credit card number, and telephone number—as well as including such information in subsequent communications with that particular customer.”). Further, while the ’286 patent specification includes a terse description of using a “cryptographically protected timestamp” to generate a “limited-duration credit card number” (SAMSUNG-1001, 10:63-11:11), the claims here are not so limited. *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016) (“The § 101 inquiry must focus on the language of the Asserted Claims themselves.”). In the end, the “limited-duration credit card number” allows for “the credit card of the present disclosure [to] effectively act[] as a unique per-transaction credit card.” SAMSUNG-1001, 11:55-57; *compare with USR*, 10 F.4th at 1349 (finding claims are directed to “enabling a transaction between a user and a merchant, where the merchant is given a time-varying code instead of the user’s secure (credit card) information” thereby allowing for the “purchasing [of] goods or services without revealing personal financial information to a merchant”). Thus, Representative Claim 1 mirrors the patent-ineligible claims in *USR*.

Further, “[i]n cases involving authentication technology, patent eligibility often turns on whether the claims provide sufficient specificity to constitute an improvement to computer functionality itself.” *USR*, 10 F.4th at 1346. Similar to the ineligible claims in *USR*, Representative Claim 1 is broad, lacks specificity, and provides no advancement to computer technology itself. *SAMSUNG-1003*, ¶¶97, 99, 105-106. For example, the independent claims do not require a particular method for “generat[ing] at least a portion of a limited-use card payment information for use by an authenticated card user” or for “combin[ing] said at least a portion of the limited-use payment information with at least said static device account number to create combined payment information.” *See Secured Mail Solutions LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 907, 910–11 (Fed. Cir. 2017) (holding as abstract claims directed to using a marking (e.g., a conventional barcode) affixed to the outside of a mail object to communicate information about the mail object, including claims reciting a method for verifying the authenticity of the mail object, because there were no specific details of the barcode or how that barcode was different from long-standing identification practices); *SAMSUNG-1003*, ¶¶36, 103-109, 132. These claim elements merely recite steps that could be conducted mentally, simply being performed by a computer without providing any details on “how to achieve these results in a non-abstract way.” *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1337 (Fed. Cir. 2017);

University of Fla. Res. Found., Inc. v. Gen. Elec. Co., 916 F.3d 1363, 1368–69

(Fed. Cir. 2019); SAMSUNG-1003, ¶¶91, 132, 102, 122.

Likewise, Representative Claim 1’s recitation of “convey[ing]” information “via an interface of the computing device,” “reject[ing]” an invalid transaction, “validat[ing]” card payment information, or “permit[ting] authentic transactions to complete,” are nothing more than routine and conventional uses of computer technology to process a payment transaction without particular details on how they are done, or what advancement in computer functionality they purport to provide. SAMSUNG-1003, ¶¶97-106, 135; *USR*, 10 F.4th at 1350 (“[T]he asserted claims are directed to a method for verifying the identity of a user to facilitate an economic transaction, for which computers are merely used in a conventional way, rather than a technological improvement to computer functionality itself.”); *Elec. Comm’n Techs.*, 958 F.3d at 1182 (“Indeed, including previously stored information in a subsequent communication is quite unlike the ‘improvement[s] in computer capabilities’ that we have found eligible for patenting at step one.”); *Prism Techs. LLC v. T-Mobile USA, Inc.*, 696 F. App’x 1014, 1016 (Fed. Cir. 2017) (holding as abstract claims broadly reciting “receiving” identity data of a client computer, “authenticating” the identity of the data, “authorizing” the client computer, and “permitting access” to the client computer because the claims did not cover a “concrete, specific solution”). Indeed, the “reject[ing],” “validat[ing],”

and “permit[ting]” functions are performed by “a card issuer authority” that is not even described as being a computing device/system, and therefore could be functions performed entirely mentally by one or more human beings.

Further still, generating “limited-use card payment information” and conveying that information for effecting a validated transaction has been a known commercial practice. SAMSUNG-1017 at 196, 202-05 (describing methods for creating a secure limited-use token for use in place of credit card information in a transaction); SAMSUNG-1003, ¶¶106-109, 76-81, 65-66; SAMSUNG-1004, [0067] (“The payment credentials may include a payment cryptogram ... generated based on at least a portion of the mobile cloud account data stored in the secure element.”), [0096], [0103]; SAMSUNG-1006, [0021] (describing a “*dynamically generated Card Verification Value*”), [0007], [0029]. Indeed, the EMV industry standard demonstrates that generation of cryptograms for use by mobile devices in commercial payment systems was well-known. SAMSUNG-1019, 62-63, 70, 113 (describing that a smart card “computes and returns an *Application Cryptogram*” as part of a payment transaction); SAMSUNG-1020, 90, 98, 112, 122 (The “Application Cryptogram” is “computed by the card during a transaction.”); SAMSUNG-1030, 5 (“One of the primary goals of a tokenization solution should be to replace sensitive PAN values with non-sensitive token values...A single-use

token is typically used to represent a specific, single transaction.”); SAMSUNG-1003, ¶¶63-64, 109.

“[U]sing off-the-shelf technology for its intended purpose” is “not enough to save the claims from abstractness.” *Chamberlain Group, Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1348 (Fed Cir. 2019); *Solutran, Inc. v. Elavon, Inc.*, 931 F.3d 1161, 1163, 1167 (Fed. Cir. 2019) (holding as abstract a method for electronically processing checks, which included electronically verifying the accuracy of a transaction to avoid check fraud, because the claims were directed to a long-standing commercial practice of crediting a merchant’s account as soon as possible, which “was already common”); *Automated Tracking Solutions, LLC v. Coca-Cola Company*, 723 F. App’x 989 (2018) (holding claims that recited generic RFID system components without a “particular configuration” or “specialized arrangement” were directed to an abstract idea under step one); *Kroy*, 107 F. Supp. 3d at 692; *SAP America v. InvestPic*, 898 F.3d 1161, 1169 (Fed. Cir. 2018) (finding that claims amounted to know more than mere application of an abstract idea when the claims “require no improved computer resources, just already available computers with their already available basic functions”).

The claims at issue here are in sharp contrast to those which the Federal Circuit has identified as providing a technical solution to a technical problem. For example, while the claims at issue here may purport to improve the security of

financial transactions (using known hardware and techniques, as discussed above), they do not represent an improvement to computer security itself. SAMSUNG-1003, ¶¶93-99, 110. The case here is thus distinct from cases in which the claims “disclose[] a technical solution to a security problem in networks and computers.” *Cosmokey Sols. GMBH & Co. KG v. Duo Sec. LLC*, 15 F.4th 1091, 1098, (Fed. Cir. 2021). Similarly, the claims at issue here recite storing and transmitting data using common, well-known techniques and therefore are distinct from *Enfish*’s self-referential table “designed to improve the way a computer stores and retrieves data in memory,” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016). *Enfish* highlights that claims “directed to an improvement in functionality of a computer” do **not** include “claims reciting ... ‘generalized steps to be performed on a computer using conventional computer activity,’” as is the case here. *Id.*, 1338; SAMSUNG-1003, ¶¶99-103.

Accordingly, Representative Claim 1’s “character as a whole” is directed to the abstract idea of facilitating secure payment transactions by storing, analyzing, and transmitting payment information. SAMSUNG-1003, ¶¶37, 91-92, 101, 110; *See, e.g., Elec. Commc’n Techs.*, 958 F.3d at 1182 (“[T]he process of recording authentication information—such as the customer’s name, address, and telephone number—and including that information in a subsequent communication with the customer is abstract not only because it is a longstanding commercial practice, but

also because it amounts to nothing more than gathering, storing, and transmitting information.”); *Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378-79 (Fed. Cir. 2017) (“[L]ocal processing of payments for remotely purchased goods” is a “fundamental economic practice, which *Alice* made clear is, without more, outside the patent system.”).

3. Like Representative Claim 1, Independent Claims 15 and 20 Are Directed To The Abstract Idea of Facilitating a Secure Payment Transaction by Storing, Analyzing, and Transmitting Payment Information

Independent claims 15 and 20 are not substantively different than Representative Claim 1 because independent claims 15 and 20 recite substantially the same limitations that are “linked to the same abstract idea.” *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass’n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014). For example, in addition to the limitations found in Representative Claim 1, claim 15 recites generic language like “touch screen display interface,” “user-interface,” “personal computing device,” “merchant,” and “in-store facility transactions.” SAMSUNG-1003, ¶¶92-96, 135, 72-75. Likewise, claim 15 introduces “dynamically” generated “limited-payment information.” SAMSUNG-1003, ¶¶135, 104, 106. Further, claim 20 recites “issuer” and a “static device account number,” which are not found in Representative Claim 1. These terms, however, do not change Representative Claim 1’s “character as a whole,” but

rather, “simply recite conventional actions in a generic way,” *USR*, 10 F.4th at 1349; SAMSUNG-1003, ¶¶135, 130-132, 32-96. Accordingly, independent claims 15 and 20 are linked to the same abstract idea of facilitating secure payment transactions by storing, analyzing, and transmitting payment information. *See Content Extraction*, 776 F.3d at 1348 (“[T]he claims of the asserted patents are substantially similar in that they recite little more than the same abstract idea.”); SAMSUNG-1003, ¶135.

4. Dependent Claims 2-14, 16-19, and 21-27 Too Are Substantially Linked To The Abstract Idea of Facilitating a Secure Payment Transaction by Storing, Analyzing, and Transmitting Payment Information

The dependent claims of the ’286 patent are directed to the same abstract idea of facilitating a secure payment transaction by storing, analyzing, and transmitting payment information. SAMSUNG-1003, ¶110. Specifically, the dependent claims add generic limitations that do not change the nature of Representative Claim 1. SAMSUNG-1003, ¶¶110-134. For example, the dependent claims include, *inter alia*, a user interface operable “to control an access for payment transactions” and “to enable as authentic payment transactions” (claim 2), “NFC” technology (claim 3), notions of “locking and unlocking” payment transactions (claim 4), “denying” transactions based on “locked” and “unlocked” devices (claim 4), “online transaction” (claim 5), “in-store merchant card reader

facility use” (claim 5), “limited-use payment information” comprising of “a transaction information, a merchant, a facility information, a sequence counter, a payment card account information, secrets, and an information limited to . . . card device and . . . computing device” (claim 6), “transceive the card payment information via wireless interface” (claim 7), “transceive the card payment information via an NFC interface” (claim 8), “transceive the card payment information wirelessly with another device, in a device-to-device transaction” (claims 8 and 9), “user-denied” and “user approved” transactions (claim 11), “biometric sensing” (claim 12), “security challenge” (claims 12-13), “payment issuing authority” (claims 13-14), “fixed payment information” comprising “a card-holder name; a payment issuing logo; a card payment network logo, and a card reader interface icon” (claim 19), wirelessly receiving information (“the static device account number”) (claims 21, 25, 27), or generating the limited-use payment information using “a transaction sequence counter,” “payment processing authority secrets,” or “the static device account number” (claims 22-24, 26), using generic, off-the-shelf technology without providing details on how to implement such functionality. SAMSUNG-1003, ¶¶110-134. The additional limitations found in the dependent claims may provide some specificity of how payment transactions are facilitated, but the limitations are conventional and without any technological improvement to computer functionality itself. *Id.* Thus, each of the dependent

claims are directed toward the same abstract idea as Representative Claim 1, i.e., facilitating secure payment transactions by storing, analyzing, and transmitting payment information. *USR*, 10 F.4th at 1357 (“While we recognize that some of the dependent claims provide more specificity on these aspects, what is claimed is still merely conventional. Indeed, the specification discloses that each authentication technique is conventional.”).

Accordingly, all Challenged Claims fail *Alice* Step 1 because they are directed to an abstract idea.

5. The USPTO’s Subject Matter Eligibility Guidance Confirms the Abstract Idea in the Challenged Claims

The Office’s October 2019 Update to Subject Matter Eligibility Guidance, confirms that the challenged claims are directed to an unpatentable abstract idea.

(a) Guidance Step 2A, Prong 1: The Claims Recite an Abstract Idea—Organizing Human Activity

The Guidance confirms that claims directed to “fundamental economic practices” and “commercial or legal interactions” recite unpatentable abstract ideas. MPEP §2106.04(a)(2) I.A. Example of abstract economic practices include “local processing of payments for goods” and “using a marking...to communicate information about [a] mail object.” *Id.* II.A. Similarly, “processing a credit application” and “processing information through a clearinghouse” are examples of unpatentable abstract commercial interactions. *Id.* II.B. These abstract ideas are

similar to the Challenged Claims’ abstract idea of facilitating secure payment transactions by storing, analyzing, and transmitting payment information. *Supra* §§ III.A.2-4.

(b) Revised USPTO Step 2A, Prong 2: The Claims Do Not Integrate the Abstract Idea into a “Practical Application” of the Abstract Idea

Under the Guidance, an abstract idea may be patent eligible if it is integrated into a practical application of the judicial exception, such as by “improvement in the functioning of a computer, or an improvement to other technology or technical field,” using the abstract idea with “a particular machine or manufacture that is integral to the claim,” or using the abstract idea “in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment.” MPEP §2106.04(d) I. But “[m]erely reciting the words ‘apply it’ (or an equivalent) with the judicial exception, or merely including instructions to implement an abstract idea on a computer, or merely using a computer as a tool to perform an abstract idea” are not a practical application. *Id.* The Challenged Claims do not recite an improvement to technology components or implement the claimed abstract idea using a particular machine. *Supra* §§ III.A.2-5. Instead the claims use only generic off-the-shelf components without modification and recite generic functional language. *Id.*; SAMSUNG-1003, ¶¶92-101, 110, 135. Under the Guidance, such generic claims do not recite a practical

application of an abstract idea to render them patent eligible. MPEP §2106.04(d) I; SAMSUNG-1003, ¶¶98, 110. Thus, the Guidance confirms the Challenged Claims are directed to an abstract idea.

6. *Alice* Step 2—Representative Claim 1 Does Not Provide An Inventive Concept That Amounts To Significantly More Than The Abstract Idea

Representative Claim 1 is directed to performing known, routine functions using only generic computer components, such as storing, analyzing, and transmitting payment information, which are known to be a part of longstanding commercial practices. *Alice* Step 2 requires “look[ing] with more specificity at what the claim elements add, in order to determine whether they identify an ‘inventive concept’ in the application of the ineligible subject matter to which the claim is directed.” *Affinity Labs of Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016). An “inventive concept,” in turn, is “an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Alice*, 134 S. Ct. at 2355 (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73). Thus, “[f]or the role of a computer in a computer-implemented invention to be deemed meaningful in the context of this analysis, it must involve more than performance of ‘well-understood, routine, [and] conventional activities previously

known to the industry.” *Content Extraction*, 776 F.3d at 1347-48 (quoting *Alice*, 573 U.S. at 225).

As with *Alice* Step 1, *USR* is instructive for *Alice* Step 2 here. In that case, the “claim’s recitations of (1) time-varying codes and (2) sending data to a third-party as opposed to the merchant” were determined not to serve as an inventive concept. *USR*, 10 F.4th at 1350. The Court found that “generating time-varying codes for authentication of a user is conventional and long-standing.” *Id.* In addition, “sending data to a third-party as opposed to the merchant” (i.e., “bypassing the merchant”) did not constitute an “inventive concept.” *Id.* The Court found “the claims . . . involve allowing a financial transaction between two parties using a third-party intermediary to mitigate information security risks,” and because the “Supreme Court . . . previously held the use of a third-party intermediary in a financial transaction to be an ineligible abstract idea,” the Court determined “sending data to a third-party as opposed to the merchant is itself an abstract idea . . . [and therefore] cannot serve as an inventive concept.” *Id.*

Similar to the conventional “time-varying codes for authentication of a user” recited in *USR*, Representative Claim 1’s “limited-use card payment information” cannot amount to an “inventive concept” because “limited-use card payment information” too is conventional—it can be any information used in place of a bank issued payment number, including information that is good for only “a

predetermined number of authorized transactions.” SAMSUNG-1001, 2:33-37, 3:6-16; SAMSUNG-1003, ¶¶104-109, 76-81. As previously addressed, use of substitute limited-use payment information was conventional in financial transactions. *See, e.g.*, SAMSUNG-1017, 196, 202-05; SAMSUNG-1004, [0067], [0096], [0103]; [0096], [0103]; SAMSUNG-1006, [0021], [0007]; SAMSUNG-1019, 62-63, 70, 113; SAMSUNG-1020, 90, 98, 112, 122.

In addition, other elements of Representative Claim 1 fare no better. For example, a “payment card device,” a “computing device,” a “processor,” a “memory,” a “wireless interface,” a “touch-screen,” a “user-input device”/“user-interface,” and a “payment card reader equipment” are all generic computer components. *See Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324 (Fed. Cir. 2016) (“No such inventive concept is present here. Instead, the claims ‘add’ only generic computer components such as an ‘interface,’ ‘network,’ and ‘database.’”); SAMSUNG-1003, ¶¶91-101, 110, 117-118, 135, 72-75. Indeed, even “adding novel or non-routine components is not necessarily enough to survive a §101 challenge.” *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 773 (Fed. Cir. 2019). Likewise, Representative Claim 1 recites routine functions—e.g., to “receive,” “store,” transmit,” “generate,” “convey,” and “validate” information, which may include “payment card information” and “transaction sequence count, a device account number and secrets.” These

elements are described at a high level of generality and are well-understood, routine, conventional activities that require only generic computer implementation. SAMSUNG-1003, ¶¶91-105, 135, 82-86. There is nothing about these limitations or the “ordered combination” of these limitations that goes beyond the abstract idea of facilitating secure payment transactions by storing, analyzing, and transmitting payment information. *See In re Sturgeon*, 839 F. App’x 517, 519 (Fed. Cir. 2021) (“[T]hese steps do not differentiate the claim from ordinary mental processes and conventional computer activity.”); *see also USR*, 10 F.4th at 1353 (“There is nothing in the specification suggesting . . . that the claimed combination of these conventional authentication techniques achieves more than the expected sum of the security provided by each technique.”). Accordingly, as in *USR*, Representative Claim 1 fails to provide any “inventive concept” that would render the challenged claims patent eligible under §101.

7. Like Representative Claim 1, Independent Claims 15 and 20 Do Not Provide An Inventive Concept That Amounts To Significantly More Than The Abstract Idea

As discussed, independent claims 15 and 20 are not substantively different than Representative Claim 1 because claims 15 and 20 recite substantially the same limitations that are “linked to the same abstract idea” of Representative Claim 1. *Supra* III.A.3; SAMSUNG-1003, ¶¶135, 96-98, 132. And like Representative Claim 1, independent claims 15 and 20 do not provide for an inventive concept.

SAMSUNG-1003, ¶¶133-135, 106. For example, claim 15 recites generic language like “touch screen display interface,” “user-interface,” “personal computing device,” “merchant,” and “in-store facility transactions.” Likewise, claim 15 introduces “dynamically” generated “limited-payment information” and claim 20 recites “issuer” and a “static device account number.” These terms recite conventional features using general-purpose computer technology. *See USR*, 10 F.4th at 1358 (“Thus, nothing in the claims is directed to a new authentication technique; rather, the claims are directed to combining long-standing, known authentication techniques to yield expected additory amounts of security.”); SAMSUNG-1003, ¶¶91-106, 132-135. Accordingly, like Representative Claim 1, independent claims 15 and 20 also fail *Alice* Step 2 and are therefore invalid.

8. Dependent Claims 2-14, 16-19, and 21-27 Do Not Provide An Inventive Concept That Amounts To Significantly More Than The Abstract Idea

The dependent claims do not save the '286 patent, because they merely add generic limitations that do not change the nature of Representative Claim 1's abstract idea. SAMSUNG-1003, ¶¶110-135. For example, the dependent claims include: a user interface operable “to control an access for payment transactions” and “to enable as authentic payment transactions” (claim 2), “NFC” technology (claim 3), notions of “locking and unlocking” payment transactions (claim 4), “denying” transactions based on “locked” and “unlocked” devices (claim 4),

“online transaction” (claim 5), “in-store merchant card reader facility use” (claim 5), “limited-use payment information” comprising of “a transaction information, a merchant, a facility information, a sequence counter, a payment card account information, secrets, and an information limited to . . . card device and . . . computing device” (claim 6), “transceive the card payment information via wireless interface” (claim 7), “transceive the card payment information via an NFC interface” (claim 8), “transceive the card payment information wirelessly with another device, in a device-to-device transaction” (claims 8 and 9), “user-denied” and “user approved” transactions (claim 11) “biometric sensing” (claim 12), “security challenge” (claims 12-13), “payment issuing authority” (claims 13-14), “fixed payment information” comprising “a card-holder name; a payment issuing logo; a card payment network logo, and a card reader interface icon” (claim 19), wirelessly receiving information (“the static device account number”) (claims 21, 25, 27), or generating the limited-use payment information using “a transaction sequence counter,” “payment processing authority secrets,” or “the static device account number” (claims 22-24, 26), using generic, off-the-shelf technology without providing details on how implement such off-the-shelf technology to perform such functions. SAMSUNG-1003, ¶¶110-134. These limitations do not recite “significantly more” than the abstract idea of facilitating secure payment transactions by storing, analyzing, and transmitting payment information.

SAMSUNG-1003, ¶¶133-135. Rather, the dependent claims are described at “a high level of generality, [are] specified in functional terms, and merely invoke[] well-understood, routine, conventional components and activity to apply the abstract idea” *Elec. Comm’n Techs.*, 958 F.3d at 1183.

For example, *see* U.S. Pat. Pub. 2005/0144082 to Coolman et al., acknowledging routine functions of processing, computing, calculating, **determining**, displaying, of a computer system, or similar electronic computing device, that manipulates, and transforms data and U.S. Patent No. 7,263,495 to Rodriguez demonstrating computer capability of making determinations based on value calculations. SAMSUNG-1015, [0067], SAMSUNG-1016, 14:3-21; *see also* SAMSUNG-1004, [0011], [0033]-[0038], [0042]-[0045], [0061]-[0064] (describing authorizing or rejecting a payment transaction based on dynamically generated payment information), [0067]-[0069] (describing generating payment information and authenticating the user based on information provided by the user using a convention mobile device), [0096], [0102]-[0104], [0108], [0112], FIGs. 5, 13; SAMSUNG-1005, [0012], [0030], [0019], [0050], [0024], [0017], [0137]-[0138]; SAMSUNG-1006, [0028], [0021]; SAMSUNG-1003, ¶¶106-109.

The claims at issue here are in contrast with those that have been found to “introduce a **technical** advance or improvement” that “amounts to significantly more than a patent upon the [abstract idea] itself.” *Synopsys*, 839 F.3d at 1152

(quoting *Alice*, 134 S. Ct. at 2355) (emphasis added). As described above, the Challenged Claims recite routine functions of storing, generating, and transmitting transaction information for performing a financial transaction and therefore do not represent an improvement to the technology itself. SAMSUNG-1003, ¶¶92-101, 110, 135. The Challenged claims are thus distinct from, for example, (1) *DDR*’s new, hybrid web page that “resolv[ed] [a] particular *Internet-centric* problem,” (2) *BASCOM*’s “particular arrangement of elements” that represented “a *technical improvement* over prior art ways of filtering [Internet] content,” and (3) *Amdocs*’ “unconventional *technological solution* (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases).” *DDR*, 773 F.3d at 1259 (emphasis added); *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350- 51 (Fed. Cir. 2016) (claimed invention “improve[s] the performance of the computer system itself”) (emphasis added); *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300– 01 (Fed. Cir. 2016) (claims “achieve an improvement in computer functionality”) (emphasis added). Here, the purported result is an improvement to financial transactions and not to the underlying technology itself.

For at least the above-stated reasons, the Challenged Claims do not recite “significantly more” than the abstract idea of conducting a payment transaction by storing, analyzing, and transmitting payment information and are therefore invalid.

**9. The USPTO’s Subject Matter Eligibility Guidance
Step 2B Confirms the Challenged Claims Do Not
Amount To An Inventive Concept**

Guidance Step 2B refers to the search of an “inventive concept” as discussed above under *Alice* Step 2. MPEP §2106.05. Under the Guidance, examples of “[i]mitations that the courts have found to qualify” as an “inventive concept” include: “[i]mprovements to the functioning of a computer,” “[i]mprovements to any other technology or technical field,” and “[a]pplying the judicial exception with, or by use of, a particular machine.” MPEP §2106.05 I.A. For the reasons discussed above, the Challenged Claims do not improve computer functionality or any other technology; nor do they apply the abstract idea to any particular machine. *Supra* III.A.6-8. Rather, the Challenged Claims are directed to an abstract idea requiring no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry. *Supra* III.A.2-8; SAMSUNG-1003, ¶¶91-135, 72-81.

Accordingly, the Challenged Claims fail both *Alice* Step 1 and Step 2 and therefore are directed to patent-ineligible subject matter.

**B. GROUND 2—Claims 1-19 Are Indefinite Under 35 U.S.C.
§112**

1. Legal Framework

A claim is indefinite under § 112 when, viewed in light of the specification and prosecution history, the claim fails to inform those skilled in the art about “the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901, 910 (2014).

2. Claims 1-19 are Indefinite

Claim [1]

Element [1.11] recites “wherein a card issuer authority is operable to reject as invalid a transaction attempt outside of its limitations of use.” This element is indefinite because it is unclear to what the word “its” refers. SAMSUNG-1003, ¶138. Multiple different interpretations of this claim element are possible, rendering it indefinite. Specifically, the word “its” could refer to the “card issuer authority,” the “transaction attempt,” the “limited-use card payment information” (elements [1.9]-[1.10]), or another component or entity recited by claim 1. SAMSUNG-1003, ¶138. The different entities that the term “its” may refer to could have different “limitations of use” therefore leading to different determinations as to if the transaction is invalid, rendering this element indefinite. *Teva Pharmaceuticals USA Inc. v. Sandoz Inc.*, 789 F.3d 1334 (Fed. Cir. 2015); *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1371 (Fed. Cir. 2015).

Element [1.13] recites “wherein the card issuer authority is operable to permit the authentic transactions to complete.” This element is indefinite because the term “the card issuer authority” lacks clear antecedent basis because claim 1 includes two recitations of “a card issuer authority” (elements [1.11] and [1.12]). *In re Packard*, 751 F.3d 1307, 1314 (Fed. Cir. 2014); MPEP 2719.05(e); SAMSUNG-1003, ¶139.

For at least these reasons, claim 1 and its dependent claims 2-14 are indefinite.

Claim [4]

Claim 4 depends from claim 1 and includes two additional recitations of “a card issuer authority.” It is unclear if these recitations of “a card issuer authority” refer to the same card issuer authority recited in claim 1 or different card issuer authorities. SAMSUNG-1003, ¶142. It is also unclear if the terms “a locked card device” and “a locked card-users computing device” are the payment card device and computing device of claim 1. SAMSUNG-1003, ¶¶143-144. It is also unclear if the term “an unlocked device” refers to one of the previously recited devices, and if so, which device. *Id.*

Claim [5]

Claim 5 recites “wherein the information presented on an interface of said

card device, are limited to an in-store merchant card reader facility use only.” The phrase “the information presented on an interface of said card device” has no antecedent basis in either claim 1 or in claim 5 itself. SAMSUNG-1003, ¶145. Claim 1 does not recite any information being “presented on” the payment card device. Parent claim 1 recites four different interfaces: a “wireless interface,” a “touch-screen user interface,” a “visual user-interface,” and an “interface of the computing device.” However, each of these interfaces are interfaces of the “computing device” and none of the recited interfaces are described as presenting information. It is further unclear whether the “interface of said card device” of claim 5 refers to any of the four interfaces of parent claim 1. SAMSUNG-1003, ¶¶145-146.

Claim [6]

The term “said transacted payment information” (element [6.1]) is indefinite for lacking clear antecedent basis because it is unclear if this term is referring to the claim 1 recitation of “a card payment information” (element [1.8]) or “a limited-use card payment information” (element [1.9]). SAMSUNG-1003, ¶147.

The term “said *device* transacted information” (element [6.3]) is indefinite because it is unclear to which previously recited device the word “device” in this claim recitation refers. Claim 1 recites “a payment card *device*” (element [1.1]), “a computing *device*” (element [1.2]), and “a user-input *device*” (element [1.6]). SAMSUNG-1003, ¶149.

The term “valid range of *device* limitations” (elements [6.4]-[6.5]) is indefinite because it is unclear to which previously recited device the word “device” in this claim recitation refers. Claim 1 recites “a payment card *device*” (element [1.1]), “a computing *device*” (element [1.2]), and “a user-input *device*” (element [1.6]). SAMSUNG-1003, ¶150. Furthermore, element [6.5] recites “within valid range of device limitations” and it is therefore unclear if element [6.5] requires the same “valid range of device limitations” as element [6.4]. SAMSUNG-1003, ¶151.

As with claim 1, claim 6 also includes multiple recitations of “a card issuer authority.” SAMSUNG-1003, ¶152.

Claims [7]-[9]

The term “operable to transceive” in each of claims 7-9 is unclear at least because “transceive” is not a word. SAMSUNG-1003, ¶¶155-157. Although devices called “transceivers” exist, they are devices that function to transmit and receive information, they do not perform an action of “transceiv[ing].”

SAMSUNG-1003, ¶155. A term without a discernable definition is indefinite.

Infinity Computer Prods. v. Oki Data Ams., Inc., 987 F.3d 1053, 1060 (Fed. Cir. 2021).

Claim [12]

Element [12.1] recites “wherein the computing device is operable to ***reject*** ***and accept a user authorization*** to use the device based on the security challenge response.” Claim 12 is indefinite because it is unclear how the computing device can function to both reject and accept the same user authorization. SAMSUNG-1003, ¶¶158-159. The claim recitation of “**a** user authorization” requires that the rejecting and accepting be performed on the **same** user authorization. *Insituform Techs., Inc. v. Cat Contracting, Inc.*, 99 F.3d 1098, 1105-07 (Fed. Cir. 1996). Requiring the computing device to both reject and accept the same user authorization is “nonsensical and require[s] an impossibility” rendering this claim indefinite. *Synchronoss Techs., Inc. v. Dropbox, Inc.*, 987 F.3d 1358, 1366–67 (Fed. Cir. 2021).

Claim [13]

Claim 13’s recitation of “The user computing device of claim 12” is indefinite for lacking proper antecedent basis as claim 12 (and claim 1 from which claim 12 depends) is directed toward a “system” and not a “user computing device.” SAMSUNG-1003, ¶¶160-161.

Claim [15]

Element [15.10] is indefinite because it is unclear if the term “when used in merchant in-store facility transactions” is referring to “the limited-use payment

information,” “the payment card device,” or “the computing device” recited by this claim element. SAMSUNG-1003, ¶163.

Element [15.11] recites “wherein a card issuing authority is operable to reject as invalid, a payment information used outside of its valid limitations of use.” This element is indefinite because it is unclear to what the word “its” refers. SAMSUNG-1003, ¶¶164-165. Multiple different interpretations of this claim element are possible, rendering it indefinite. Specifically, the word “its” could refer to the “card issuing authority,” the “payment information,” the “limited-use payment information” (elements [15.7]-[15.8], [15.10]), or another component or entity recited by claim 15. SAMSUNG-1003, ¶164. For at least these reasons, the scope of claim 15 is unclear, rendering claim 15 and its dependent claims 16-19 indefinite.

Claim [17]

Element [12.1] recites “wherein the touch-screen display interface is operable to accept a ***user approval and denial of a payment transaction.***” As with claim 12, claim 17 is indefinite because it is unclear how the user can approve and deny the same payment transaction. SAMSUNG-1003, ¶166; *Insituform Techs*, 99 F.3d at 1105-07. Requiring the user to approve and deny the same payment transaction is “nonsensical and require[s] an impossibility” rendering this claim indefinite. *Synchronoss Techs.*, 987 F.3d at 1366–67.

Claim [19]

Claim 19's recitation of "The card device of claim 15" is indefinite for lacking proper antecedent basis as claim 15 is directed toward a "system" and not a "card device." SAMSUNG-1003, ¶167.

C. GROUND 3—Claims 12-13 and 17 Are Invalid Under 35 U.S.C. §112 as Not Enabled

1. Enablement Requirement

35 U.S.C. § 112(a) requires that the patent enable one of skill in the art to make and use the claimed invention. "The scope of the claims must be less than or equal to the scope of the enablement." *Nat'l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1196 (Fed. Cir. 1999). "The scope of enablement, in turn, is that which is disclosed in the specification plus the scope of what would be known to one of ordinary skill in the art without undue experimentation." *Id.* "A patentee who chooses broad claim language must make sure the broad claims are fully enabled." *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008). "[T]he enablement inquiry for claims that include functional requirements can be particularly focused on the breadth of those requirements, especially where predictability and guidance fall short." *Amgen Inc. v. Sanofi, Aventisub LLC*, 987 F.3d 1080, 1086 (Fed. Cir. 2021).

2. Claims 12-13 and 17 are not Enabled

As discussed in Section III.B.2, *supra*, claim 12 requires the computing device to both reject and accept the same user authorization. The specification fails to enable a POSITA to make a computing device that can both reject and accept the same user authorization and therefore claims 12 and 13 (which depends from claim 12) are not enabled. *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956 (Fed. Cir. 1983) (explaining that a claimed invention having an inoperable or impossible claim limitation may lack utility under 35 U.S.C. § 101 and certainly lacks an enabling disclosure under 35 U.S.C. § 112); SAMSUNG-1003, ¶169.

Similarly, as discussed in Section III.B.2, *supra*, claim 17 requires the user to approve and deny the same payment transaction and is therefore not enabled by the specification for the same reasons as claim 12. SAMSUNG-1003, ¶¶170-171.

D. GROUND 4—Claims 20-27 Are Invalid Under 35 U.S.C. §112 for Lack of Written Description

1. Written Description Requirement

To satisfy the written description requirement under 35 U.S.C. § 112(a), an application must “reasonably convey[] to those skilled in the art that the inventor had possession of” and “actually invented” the claimed subject matter. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). This requirement is in place to ensure that the claims do “not overreach the scope of the inventor’s contribution to the field of art as described in the patent

specification.” *Reiffin v. Microsoft Corp.*, 214 F.3d 1342, 1345. The test for adequate written description support “requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art. Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed.” *Ariad*, 598 F.3d at 1351.

2. Claims 20-27 Lack Written Description Support

Claims 20-27 were added through amendment. SAMSUNG-1002, 74-77.

Claim [20]

There is no description in the specification or original claims as filed to support the claim 20 recitation of “wherein 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.” Claim 1 as filed includes a similar, and yet distinct recitation of “wherein the computing device is operable to receive, store and transmit a payment card information not visible on the payment card device.” SAMSUNG-1002, 530. However, there is no disclosure in the specification or claims as filed that the computing device is “operable to...*display...issuer provided* payment information” that is “not visible” or “not depicted on, the payment card device.” SAMSUNG-1003, ¶¶172-174. Claim 1 also does not recite that the information be “associated with...the payment card

device.” *Id.* For this additional reason, claim 20 and its dependent claims 21-27 lack written description support.

IV. DISCRETIONARY CONSIDERATIONS

None of the relied upon references were cited during prosecution. The facts associated with this Petition strongly favor institution, even under the *Fintiv* framework, as clarified by interim guidelines dated June 22, 2022. SAMSUNG-1016, 2.

Factor 1 (Stay)—Neither party has requested a stay.

Factor 2 (Trial Date)—Patent Owner’s complaint was filed on May 11, 2022 in the Eastern District of Texas (E.D. Tex.). SAMSUNG-1100. Based on a median time from filing to trial in E.D. Tex. of 24.5 months, trial is projected to occur in May, 2024. SAMSUNG-1103, 35; *Apple Inc. et al. v. Arigna Tech. Ltd.*, IPR2022-00651, Paper 12 at 9-12 (PTAB Oct. 6, 2022). A final written decision (“FWD”) is anticipated in July, 2024. The Board should not deny institution due to the close proximity of the expected FWD date and the predicted trial date in E.D. Tex. SAMSUNG-1101, 3. Additionally, with a gap of just about two months between these dates—and with the median time to trial statistics in E.D. Tex. indicating that “delays are possible” with respect to the trial date set forth in the Court’s original scheduling order (*see* SAMSUNG-1104), the “efficiency and system integrity concerns that animate the *Fintiv* analysis are not as strong all other

things being equal.” *Google LLC v. Parus Holdings, Inc.*, IPR2020-00846, Paper 9 at 14 (PTAB Oct. 21, 2020); IPR2022-00651, Paper 12 at 9-12.

Factor 3 (Investment)—The bulk of investment in the Related Litigation by the parties and court has yet to occur. Significantly, no part of claim construction and no document production has yet occurred. SAMSUNG-1104. By the time of institution in this proceeding, the Related Litigation will be at a similar posture where “much of the district court’s investment relates to ancillary matters untethered to the validity issue itself.” *Sand Revolution*, IPR2019-01393, Paper 24 at 10-11.

Factor 4 (Overlap)—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.¹ Thus, if PGR is instituted, there will be no overlap or concerns of duplicative efforts. *See Sand Revolution*, Paper 24 at 11-12. Factor 4 thus weighs against discretionary denial. *Id.*; *Coolit Systems, Inc. v. Asetek Danmark A/S*, IPR2021-01995, Paper 10 at 12-13 (PTAB Dec. 28, 2021).

Factor 6 (Merits and Other Circumstances)— The strength of the merits

¹ Petitioner reserves all rights to pursue these invalidity grounds in the Related Litigation if PGR based on this Petition is not instituted.

alone justifies institution in the public interest and outweighs any inefficiencies born of parallel litigation. *See* Fintiv at 15; SAMSUNG-1101, 1. Petitioner has been diligent in filing this Petition just over four months after service of Patent Owner’s preliminary infringement contentions and identification of asserted claims on September 8, 2022. SAMSUNG-1105. In fact, Patent Owner identified more than **100 asserted claims** across five patents against Petitioner in its September 8, 2022 disclosure. Petitioner has worked diligently to develop invalidity grounds against each of the more than 100 asserted claims (and non-asserted claims), and began filing IPR or PGR petitions on the asserted patents without delay as early as November 2022. *See* IPR2023-00210, IPR2023-00211, IPR2023-00196, IPR2023-00219, IPR2023-00314.

V. CONCLUSION AND FEES

The Challenged Claims are unpatentable. Petitioner authorizes charge of fees to Deposit Account 06-1050.

VI. MANDATORY NOTICES UNDER 37 C.F.R § 42.8(a)(1)

A. Real Party-In-Interest Under 37 C.F.R. § 42.8(b)(1)

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, “Samsung”) are the real parties-in-interest.

B. Related Matters Under 37 C.F.R. § 42.8(b)(2)

The ’286 patent is the subject of a civil action, *CardWare Inc. v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.*, 2:22-cv-00141, E.D.

Tex., filed May 11, 2022 (SAMSUNG-1100). Petitioner is also filing a PGR

petition challenging claims 1-27 of the '286 Patent under § 103. Petitioner is not aware of any other disclaimers, reexamination certificates, PGR petitions, or IPR petitions addressing the '286 patent.

C. Lead And Back-Up Counsel Under 37 C.F.R. § 42.8(b)(3)

Petitioner provides the following designation of counsel.

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D. Service Information

Please address all correspondence and service to the address listed above.

Petitioner consents to electronic service by email at PGR39843-0147PS2@fr.com

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Respectfully submitted,

Dated January 20, 2023

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CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petition for Post Grant Review totals 10,849 words, which is less than the 18,700 allowed under 37 CFR § 42.24.

Dated January 20, 2023

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4)(i) *et seq.* and 42.105(b), the undersigned certifies that on January 20, 2023, a complete and entire copy of this Petition for Post Grant Review and all supporting exhibits were provided by Federal Express, to the Patent Owner, by serving the correspondence address of record as follows:

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