UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner
v.

CARDWARE INC.,
Patent Owner

Inter Partes Review Case No. IPR2025-01152
U.S. Patent No. 11,620,634

PETITIONER'S OPPOSITION TO PATENT OWNER'S REQUEST FOR DISCRETIONARY DENIAL

TABLE OF CONTENTS

I. INTRODUCTION 1

II. THE '634 PATENT 3

A. CARDWARE'S PROVISIONAL APPLICATION 3

B. THE FIRST ISSUED PATENT IN THE FAMILY 4

C. CARDWARE'S PATENT PORTFOLIO SHIFTS 4

D. DESCRIPTION OF THE '634 PATENT 7

III. COMPELLING REASONS TO GRANT INSTITUTION 7

A. INSTITUTION OF APPLE'S PETITION FOR *INTER PARTES* REVIEW IS AN APPROPRIATE USE OF BOARD RESOURCES 7

1. The Patent Office Erred in a Way Material to Patentability When it Allowed the '634 Patent 7

2. The Board is Better Suited to Address the Large Number of Patents and the Complexities of the Technology At Issue. 9

B. PO'S REMAINING ARGUMENTS DO NOT JUSTIFY DISCRETIONARY DENIAL 11

1. The '634 Patent Issued in 2023 and No Settled Expectations Favor Discretionary Denial 11

2. PO Failed to Identify Any Claim-Construction Issues 14

3. Judge Albright's Median Time to Trial is 34 Months, Consistent with District-Wide Statistics. 14

4. Apple's Sotera+ Stipulation Mitigates Any Remaining Overlap Concerns Between this IPR and the Litigation 16

IV. CONCLUSION 20

TABLE OF AUTHORITIES

Cases

AlmondNet, Inc. et al. v. Amazon.com Inc. et al et al., 6-21-cv-00898, Dkt. 235 (W.D. Tex.).....15

Ingenico Inc. v. IOENGINE, LLC, 136 F.4th 1354, 1367 (Fed. Cir. 2025) 17

*IOEngine, LLC v. Roku Inc.*21-cv-01296 Dkt. 309 (W.D. Tex.) 15

Polaris Innovations Limited v. Qualcomm Incorporated et al. 7:24-cv-00296-ADA, Dkt. 31 (W.D. Tex.).....16

PTAB Decisions

Anthony Inc. v. Controltec, LLC, IPR2025-00559, Paper 9 (Director Rev. July 16, 2025) 8

Apple Inc. v. Fintiv Inc., IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020).....3, 14, 16, 17, 18

Tesla, Inc. v. Intellectual Ventures II LLC, IPR2025-00217, Paper 9 (PTAB June 13, 2025) 10, 17

Statutes

35 U.S.C. §102(g).....17

I. INTRODUCTION

Apple Inc. ("Petitioner") respectfully requests *inter partes* review ("IPR") of claims 1-72 ("Challenged Claims") of U.S. Patent No. 11,620,634 ("'634 Patent"). Apple's request is based on compelling obviousness combinations, set forth in detail in the Petition (Paper 1) and summarized as appropriate below.

The '634 Patent is one of six patents in the same family of payment processing patents. All six are asserted by CardWare against Apple in litigation and challenged by Apple in IPRs.[1] There is ample reason to doubt the validity of these patents and to doubt that the initial review conducted by the examiner considered the most relevant references. In the relevant timeframe, there were two undisputed leaders in the payment processing space: MasterCard and Visa. Both were prolific patent filers, and they were major contributors to the leading global payment standard, EMV (named after EuroPay, MasterCard, and Visa). EX1003, ¶¶45-47. But not one MasterCard or Visa reference was found in the prosecution history of any of these patents until 2023, after CardWare received Samsung's invalidity contentions. By that point, the '634 Patent had already received a notice of allowance. Though

[1] IPR2025-01145 (Challenging claims 1-17 of US10,339,520); IPR2025-01146 (Challenging claims 18-24 of US10339520); IPR2025-01147 (Challenging all claims of US10,628,820); IPR2025-01148 (Challenging all claims of US10,810,579); IPR2025-01149 (Challenging claims 1-18 of US11,176,538); IPR2025-01150 (Challenging all claims of US11,176,538); IPR2025-01151 (Challenging all claims of US11,328,286); IPR2025-01152 (Challenging all claims of US11,620,634).

CardWare filed an IDS with the prior art references identified by Samsung, the ’634 Patent summarily issued shortly thereafter with no prior art rejections. Every one of Apple’s IPRs challenging this family of patents relies on between 1 and 5 references assigned to Visa or MasterCard. Had the Examiner considered the pertinent art filed by the leading companies in the payment processing space, these patents never would have issued.

No settled expectations favor CardWare here either. The ’634 Patent issued on April 4, 2023, and CardWare’s lawsuit against Apple was brought on November 4, 2024. Therefore, there is no settled expectation that the 2-year-old ’634 Patent is valid. Further, all six patents CardWare asserts against Apple issued years ***after*** CardWare’s alleged 2017 meeting with Apple and after CardWare significantly altered the scope of its patent portfolio, as discussed in detail below. This history further undermines any settled expectations claim.

CardWare’s remaining arguments are easily disposed of. The average time to trial in the Western District of Texas and Judge Albright’s recent trial statistics support a trial date months ***after*** a final written decision would issue in this case, favoring institution. CardWare’s own exhibits demonstrate that there are no remaining claim-construction disputes that would create any differences between how the claims will be interpreted in this proceeding and the district court. Finally, Apple’s *Sotera-Plus* Stipulation curtails which prior-art invalidity defenses Apple is

permitted to raise in district court, limiting Apple to invalidity questions that this Board is statutorily prohibited from addressing, and ensuring that this IPR is a true alternative for those invalidity questions that can be properly raised in an IPR.

Therefore, the "efficiency and integrity of the [patent] system are best served by" instituting review of the '634 Patent. *Apple Inc. v. Fintiv Inc.,* IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) The Board's interest in reviewing the Patent Office's error in failing to analyze any MasterCard or Visa references, the age of the patents, and the lack of settled expectations all weigh strongly against discretionary denial. Accordingly, Apple respectfully requests that the Director deny Patent Owner's request for discretionary denial.

II. THE '634 PATENT

A. CardWare's Provisional Application

On March 15, 2013—the very last day before the provisions of the America Invents Act ("AIA") took effect—Mr. David Wyatt filed provisional patent no. 61/794,891. EX1062. Mr. Wyatt's 16-paragraph provisional application described a purported invention relating to "credit cards and, more specifically, to more secure, smarter credit cards." *Id.* at [0001]. The specification primarily described magnetic stripe emulation technology, including an inductor assembly for generating a magnetic field of alternating polarity, and rate detection assemblies that detect how quickly the user swipes their credit card to ensure that the microprocessor produces

data at an appropriate rate. *Id.* at [0011]-[0012], claim 1. The specification further mentioned use of "dynamically created credit card numbers." *Id.* at [0014]-[0015].

B. The First Issued Patent in the Family

On May 5, 2015, the first patent in the family issued—U.S. Patent No. 9,022,286 (the '2,286 Patent). EX1063. The claims in the '2,286 Patent were again directed to magnetic stripe emulation technology:

- "a magnetic card reader detection unit….an inductor assembly…for generating a magnetic field of alternating polarity…" (claim 1)
- "an inductor assembly….a motion rate detection array…initiate a transaction by detecting proximity of the motion rate detection array…" (claim 15)

This patent is not asserted against Apple. CardWare continued to file and receive issued patents, but no patents issued to CardWare prior to 2019 have been asserted against Apple (or anyone else) in litigation.

C. CardWare's Patent Portfolio Shifts

CardWare alleges it met with Apple in 2017. Paper 7 at 15. At that point, ApplePay, launched in collaboration with MasterCard, had been available for three years. EX1064. After 2017, CardWare's patents began going in a new direction. On December 11, 2018, during prosecution of U.S. Patent No. 10,339,520, CardWare amended its claims previously directed to a "credit card device" to instead refer to an "electronic device" (EX1065, 109-121), and on July 15, 2019, during prosecution

of U.S. Patent No. 10,628,820, CardWare added a mobile phone and smartwatch to the specification. EX1066, 174-175, 205-209, 262-268, Figs 8-12. The mobile phone CardWare chose to add conspicuously resembles an Apple iPhone, including a circular button labeled "Touch ID button," an iPhone feature released in 2013. EX1067. CardWare chose to use a strawberry and a banana as the exemplary "logos." The new images also refer to a "MASTERCARTE" payment card, with a logo of three overlapping circles.

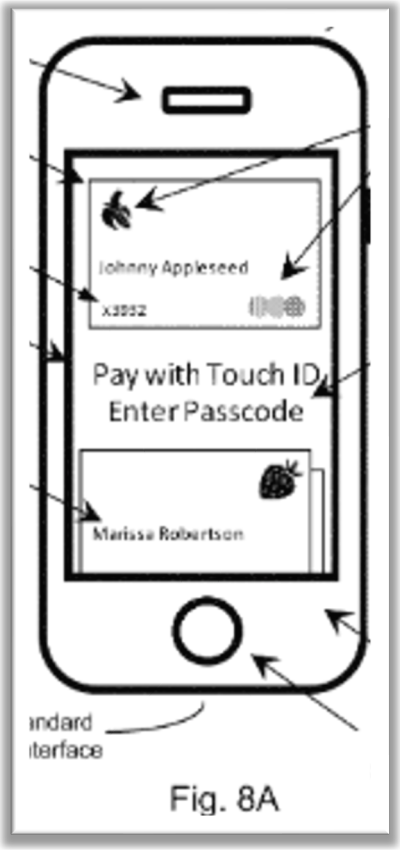

Fig. 8A

The changes to CardWare's patent portfolio were not limited to its specification. CardWare sought a different claim scope after 2017, as evidenced by the fact that CardWare has not asserted any of its pre-2019 patents against Apple (or anyone else) in litigation. Further, after 2017, CardWare began including claim limitations that were not supported by its earliest patent filings, as the Board preliminarily found in previously instituted PGRs.[2] While Apple did not need to

[2] EX1069, PGR2023-00013 (Paper 14 at 9-12); EX1068, PGR2023-00012 (Paper 14 at 10-13) (preliminarily finding insufficient support for at least claim 5 of U.S. Patent No. 11,328,286 in CardWare's March 15, 2013, provisional application). Claim limitations such as "static device account number", "device specific" account number" "touch ID button", "biometric sensor", "status" and "receiving a request" also began to appear in CardWare's patent applications (see e.g., EX1065, 109-121)

challenge the priority date of CardWare's patents in these IPRs (because the claims are invalid regardless), CardWare's shifting claim scope undermines any allegation of settled expectations for the six patents at issue in these IPRs.

Despite the new claim scope, CardWare's post-2017 patents underwent limited scrutiny at the Patent Office. The '634 Patent received no rejections whatsoever, and no rejections based on any prior art references. EX1002. Of the six challenged patents, five issued without any prior art rejections[3] and most faced only double patenting rejections or restriction requirements.

The first (and only) time MasterCard or Visa references appear in the prosecution history for ***any*** of these patents is in the prosecution history of the final patent, U.S. Patent No. 11,620,634, and they were not found by the examiner. While the application that became the '634 Patent was pending, CardWare sued Samsung on five other patents in this patent family. Samsung served invalidity contentions on November 7, 2022. EX1070. The '634 Patent received a notice of allowance on November 16, 2022, before CardWare informed the Examiner of Samsung's invalidity contentions. EX1071, 452. CardWare filed a Request for Continued Examination with new Information Disclosure Statements (IDS) on January 12,

(prosecution of the '520 Patent) though those terms are nowhere to be found in its provisional application, or early patents.

[3] The only challenged patent to face a prior art rejection was the '579 Patent. There, four claims faced an initial prior art rejection and 19 patent claims issued without any prior art rejection. EX1087, 98-102.

2023. EX1071, 1429. CardWare's IDS included approximately 275 prior art references, including over 190 non-patent literature references and over 80 patents or patent publications. Buried among the 275+ documents was a single patent assigned to MasterCard,[4] a single patent assigned to Visa, and a handful of 2-4-page news articles relating to MasterCard and Visa payment systems. The examiner did not initial next to any references on the IDS statements. The '634 Patent was summarily issued with no further rejections.

D. Description of the '634 Patent

The '634 Patent includes four independent claims and 72 total claims. The claims are directed to a "method of generating and using limited-use payment information" (claim 1), "a system for completing a payment transaction…comprising an electronic device" (claim 29), and "an electronic device for completing a payment transaction" (claims 39, 56). EX1001.

III. COMPELLING REASONS TO GRANT INSTITUTION

A. Institution of Apple's Petition for *Inter Partes* Review is An Appropriate Use of Board Resources

1. The Patent Office Erred in a Way Material to Patentability When it Allowed the '634 Patent

"[I]t is an appropriate use of Office resources to review" where "Petitioner appears to show a material error by the Office." *Anthony Inc. v. Controltec, LLC,*

[4] The cited MasterCard reference, US2013/0232083A1 to Smith is not related to the Smith reference relied on in this IPR, US2010/0125508A1 to Smith.

IPR2025-00559, Paper 9 (Director Rev. July 16, 2025). The Examiner materially erred by failing to issue ***any*** prior art rejections during examination of the '634 Patent and by failing to consider MasterCard and Visa's patent filings in particular. No MasterCard or Visa references were cited by the Examiner during prosecution of the '634 Patent, even though MasterCard and Visa were the undisputed leaders in the patent processing space and prolific patent filers. *See* EX1003, ¶¶47, 49, 57-59.

MasterCard made mobile contactless payments possible many years before CardWare's first provisional patent filing. *See* EX1003, ¶¶60-65. Further, MasterCard's patent filings on mobile payment technologies and limited-use payment systems were extensive. The Collinge reference relied on in Apple's IPR alone claims priority to over 430 pages of provisional applications filed by MasterCard from April 2, 2012 – February 7, 2013, including a hundred-page technical product specification for the Remote-SE Mobile *PayPass* product. EX1005, 1006, 1007, 1008. This stands in stark contrast to the 16-***paragraph*** provisional CardWare filed on the March 15, 2013. EX1062.

Indeed, the examiner in March of 2022, for the first time, chose to search specifically for prior art references assigned to MasterCard and Visa during prosecution of the '286 Patent (after he had already issued a notice of allowance and the applicant filed an RCE). EX1072, 145, 177, 529. A recreation of that search shows that result 14 in that search led to the prior art reference "Collinge." EX1073,

1074 (claiming priority to US2013/13827042). Either the examiner never reviewed the results of his MasterCard search or he missed that the Collinge reference teaches every limitation of claim 1 of the ’286 Patent, other than a limitation directed to printed subject matter. *See* IPR2025-01151, Paper 8 at 9-10. Then the **same examiner** failed to search for any prior art assigned to MasterCard or Visa whatsoever just months later, in November 2022, during prosecution of the ’634 Patent. EX1002, 463. The prior art reference, “Collinge,” is the primary reference in all prior art combinations presented in this Petition as well. Therefore, the Examiner materially erred by failing to issue a prior art rejection over Collinge, after his Google Patents search should have turned up this reference in March of 2022.

2. The Board is Better Suited to Address the Large Number of Patents and the Complexities of the Technology At Issue.

The IPRs filed by Apple collectively cover six patents and 196 claims. Of those, 174 are currently asserted against Apple in litigation.[5] The claims vary in scope, and many claims require an understanding of the technical details of how payment systems are set up (including the respective roles of banks, issuers, payment processing authorities, etc.), and how cryptography is used in payment systems.

[5] Claims 10-20, 22, 23 of the ’520 Patent; claims 1, 2, 4, and 10-20 of the ’820 Patent; claims 1-23 of the ’579 Patent; claims 1-30 of the ’538 Patent; claims 1-27 of the ’286 Patent, and claims 1-13, 15-53, 55-70, and 72 of the ’634 Patent. EX1075.

The claims of the six challenged patents require a diverse range of **hardware,** (such as NFC readers, biometric sensors, motion rate detection array, inductor coils, optical sensor array, accelerometers, touch sensor arrays, etc.), **applications** (NFC transactions, online transactions, ATM transactions, cryptocurrency transactions, etc.) **secret information (or keys) shared** or not shared between a variety of entities in the transaction, and **user interface features** (requiring various transaction-related images to be displayed (or absent)). The "Board is better suited to review a large number of patents involving diverse subject matter" and technical claim limitations, and for this additional reason, referral to the Board is appropriate. *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00217, Paper 9 (PTAB June 13, 2025).

3. Apple has Shown the Challenged Claims are Likely Invalid

Apple's IPR petition demonstrates that the MasterCard reference Collinge and the Visa reference Sahota teach every limitation of at least independent claims 1, 39, and 56 other than details of what payment information is displayed on a screen (Petition, 34-38 (claim 1(d)) and receiving a payment request at the electronic device (Petition, 31-34 (claim 1(c)). Both of these limitations were well-known features of payment systems at the time, and it would have been obvious to a POSITA to make these minor modifications to the MasterCard art cited in the Petition. *Id.* Accordingly, had the examiner considered the relevant art from MasterCard, one of

the two leading companies in the payment space at the time, Apple has shown that at least independent claims 1, 39, and 56 of the ’634 Patent would never have issued.

Likewise, Apple’s IPR petition demonstrates that the MasterCard references Collinge and Smith and the Visa reference Sahota teach every limitation of at least independent claim 29, other than details of what payment information is displayed on a screen (Petition, 67 (claim 29(e)) and receiving a payment request at the electronic device (Petition, 67 (claim 29(c)). The remaining claims of the ’634 Patent likewise should never have issued, as Apple’s Petition demonstrates. Further analysis of why the Challenged Claims are invalid can be found in the Petition.

B. PO’s Remaining Arguments Do Not Justify Discretionary Denial

1. The ’634 Patent Issued in 2023 and No Settled Expectations Favor Discretionary Denial

The ’634 Patent only recently issued, on April 4, 2023. The Director’s decisions confirm that Patent Owner therefore has not developed strong settled expectations in the ’634 Patent. In fact, the timeline here does not support settled expectations for ***any*** of the six patents which are the subject of Apple’s IPRs. The events after issuance of the ’634, in particular, undermine any settled expectations claim for the ’634 Patent.

Events Pre-Dating the ’634 Patent Do Not Support CardWare’s Narrative

CardWare’s brief relies heavily on events that pre-date not only the issuance of the ’634 Patent, but the issuance of ***any*** patent asserted against Apple:

2013: CardWare files a 19-paragraph provisional patent application. The specification is primarily focused on a credit card with a dynamic magnetic strip.

2015: CardWare's first patent issues. The patent claims are directed to a magnetic stripe emulation technology. EX1063 (claim 1, "a magnetic card reader detection unit….an inductor assembly…for generating a magnetic field of alternating polarity…"). Apple is not accused of infringing this patent, or any other patents that issued before 2019.

2017: CardWare alleges it met with Apple.

2019: The first of the patents asserted against Apple issues. *See* EX1065 (U.S. Patent No. 10,339,520 issued on July 2, 2019).

Events After '634 Issuance Demonstrate a Lack of Settled Expectations

None of these events create settled expectations for the '634 Patent—a patent that had not issued, and is of a different scope from CardWare's pre-2017 patents, as evidenced by CardWare's choice not to assert any pre-2017 patents against Apple. To the contrary, the events that do relate to the '634 Patent support an expectation that the '634 Patent is likely unpatentable.

2023: The '634 Patent issues on April 4, 2023. EX1001.

2023: CardWare sends a letter to Apple identifying the '634 Patent, listed among 11 other patents, including 5 patents that have never been asserted against Apple and 3 other patents with claims that had already been found likely

unpatentable. EX2013.

2024: CardWare sues Apple for patent infringement.

The History of Apple Pay Further Undermines a Settled Expectations Claim

CardWare accuses Apple Pay and/or Apple Wallet-enabled computing devices of patent infringement. EX2007, ¶¶32-33. Apple Pay was announced on September 9, 2014, and it was made available on October 20, 2014. EX1064. At the time, CardWare had no issued patents. The CardWare patents now asserted against Apple issued in 2019-2023, ***five to nine years*** after the public release of Apple Pay.

CardWare's first allegation that Apple needed a license to the CardWare patents at issue in the underlying litigation came in 2023, ***nine years*** after the release of Apple Pay. EX2013. By CardWare's own allegations, it did not have any patents applicable to Apple Pay in 2017 when it met with Apple.

Further, CardWare's articulation of what, exactly, it claims to have invented has continually evolved. Its provisional application listed the field of invention as "credit cards and, more specifically, to more secure, smarter credit cards" and the 19-paragraph specification focused primarily on inductor assemblies generating a programmed magnetic field and similar hardware. EX1062, [0001].

Over time, CardWare has stretched the scope of its claims to (and beyond) the limit of its original disclosures, in its quest to obtain claims broad enough to cover the phone-based mobile payment technologies of Apple and others that were already

on the market. The Board has already noted that claims of the '286 Patent, for example, do not have support in CardWare's earliest provisional application. *See* FN 2, *supra*. This too weighs against CardWare having "settled expectations" that would weigh against institution here. *See* S. REP. 110-259, at 21 ("The Committee is aware, however, that patents may be asserted as covering uses and products that were not originally envisioned, or that an alleged infringer may well not have imagined possible, simply from the reading of the patent claims. With calculated infringement at one end of the spectrum, and devious claiming at the other end, the possibilities for mischief and disagreement are considerable.")

2. PO Failed to Identify Any Claim-Construction Issues

Before PO filed its discretionary denial brief, Judge Albright issued a claim-construction order declining to find any claim terms indefinite. The Order is attached to PO's brief as Exhibit 2023. Accordingly, PO has not identified any inconsistency with how the claims will be interpreted in this IPR and how they will be interpreted in the district court, and no claim-construction issues weigh against institution.

3. Judge Albright's Median Time to Trial is 34 Months, Consistent with District-Wide Statistics.

The underlying litigation is pending before Judge Albright in the Western District of Texas. The USPTO's March 24, 2025 Memorandum states that "in applying *Fintiv,* the Board may consider any evidence that the parties make of record that bears on the proximity of the district court's trial date[.]" The current median

time from filing to trial in patent cases before Judge Albright is ~34 months, consistent with the district-wide time to trial statistics.[6] Applying that time period to the parallel litigation, the final written decision in this proceeding is due ***8 months prior*** to when the parallel litigation will go to trial.

On May 20, 2025, Judge Albright entered a scheduling order setting trial for July 28, 2026. EX2003. However, Judge Albright's busy docket is regularly the case of trial re-scheduling. *See e.g., AlmondNet, Inc. et al. v. Amazon.com Inc. et al.,* 6-21-cv-00898, Dkt. 235 (delaying trial from February 5, 2024 to June 10, 2024—docket entry stating "trial date of 2/5 cannot be maintained due to the Court's schedule"); Dkt. 238 (Order) (EX1076); *IOEngine, LLC v. Roku Inc.,* 6:21-cv-01296 Dkt. 309 (Judge Albright explaining that due to trial date conflicts, "it makes more sense" to move the October 16, 2023 trial setting to the spring of 2024 because of the Court's trial schedule) (EX1077).

In fact, in this case, Judge Albright has two patent trials scheduled the week of July 28, 2026. *See Polaris Innovations Limited v. Qualcomm Incorporated et al.,* 7:24-cv-00296-ADA, Dkt. 31. EX1078 (scheduling order); EX1079 (complaint). The *Polaris* case was filed on November 19, 2024, a full year before CardWare filed

[6] CardWare's WDTX statistics should be disregarded because they are not current. EX2025 (29 month time to trial from **2008**-2025). *Compare* EX1082 (34 month average from January 2024-2025).

its suit against Apple. Therefore it is likely that the *Polaris* case will receive priority, which would force the CardWare trial to move.

CardWare argues the trial date will not be moved except in extreme situations. But a review of all recent patent trials before Judge Albright (going back to January 2024) shows that trial dates are regularly moved. Of the 17 jury trials that took place in Judge Albright's court since January 2024, cases, none went to trial on the originally scheduled trial date. EX1080.

This is borne out by the most recent statistics for WDTX, which show the median time to trial for Judge Albright's cases was 34 months, just above the median time to trial in WDTX civil cases: 32.8 months. EX1080, EX1081.[7] Thus, based on Judge Albright's and WDTX's median time to trial, trial in the parallel proceeding here is projected to take place around August 2027—eight months after a FWD.

This evidence shows there is "a high likelihood" the final written decision will issue months before trial. Thus, *Fintiv* Factor 2 weighs against discretionary denial.

4. Apple's Sotera+ Stipulation Mitigates Any Remaining Overlap Concerns Between this IPR and the Litigation.

To mitigate the possibility of overlap with the parallel litigation, Apple filed a broadened *Sotera+* stipulation. If the PTAB institutes this proceeding, Apple's

[7] Patent Owner's time to trial statistics go back to the very beginning of Judge Albright's time on the bench, and are therefore less useful in evaluating what is likely to happen ***in this case*** based on the ***current*** state of Judge Albright's docket.

stipulation precludes it from pursuing in the parallel litigation:

> (i) the specific grounds raised in [petition], (ii) any other grounds that could have reasonably been raised before the PTAB in that instituted proceeding (i.e., any ground that could have reasonably been raised under §§ 102 or 103 on the basis of prior art patents or printed publications), (iii) any ground based on a combination of system prior art and the references asserted as part of a ground raised in [petition], as reflected in the table summarizing the Statutory Grounds for Challenges on page 5 of the Petition, or (iv) any ground based on a system which corresponds to a patent or printed publication asserted as part of a ground raised in [petition].

Thus, Apple's stipulation negates concerns that any issue before the Board in this proceeding will be relitigated in the parallel proceeding. *Fintiv* Factor 4, therefore, weighs strongly against discretionary denial. *See, e.g.*, *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00217 Paper 9 at 2 (PTAB June 13, 2025) (finding that Tesla's broad *Sotera*+ stipulation "counsel[s] against discretionary denial").

Apple's *Sotera*+ stipulation allows Apple to rely on its own ***products and systems*** in the litigation to demonstrate that Apple invented the claimed subject matter first under 35 U.S.C. §102(g) and Apple can use its own patents or patent publications as evidence of Apple's prior invention. In the IPRs, Apple does not and cannot raise a §102(g) defense, rely on its own system art, or allege that a claimed invention was "known or used by others, on sale, or in public use." *Ingenico Inc. v. IOENGINE, LLC,* 136 F.4th 1354, 1367 (Fed. Cir. 2025). Therefore, there will be no overlap between the issues raised here and in the district court, and the IPRs will serve as a "true alternative" to the district court proceeding.

PO nonetheless argues Apple's broadened *Sotera+* stipulation is "ineffective." Not so. PO's objection amounts to a complaint that the IPRs (and related stipulations) cannot also resolve a host of validity questions that Apple is not allowed to raise here, including §101, §112, and Apple's §102(g) defense. PO further complains that Apple's stipulation does not limit what other defendants in other cases do. In CardWare's view, a stipulation is only effective if the patent's validity cannot be challenged again by anyone for any reason in any forum. That is not the standard. *See e.g.,* March 24, 2025 Memorandum (discussing Sotera stipulations where the Petition stipulates not to pursue "any ground raised or that could have been reasonably raised ***in the IPR***/PGR" as "highly relevant") (emphasis added). Apple's stipulation prevents the same invalidity questions from being considered in two forums and weighs strongly against discretionary denial here.

5. Apple's IPRs were filed months before discovery opened in the district court litigation (Fintiv Factor 3)

Apple's IPR Petition challenging the '634 Patent was filed on June 20, 2025, more than 5 months before Apple's 1-year bar date. Discovery in the underlying district court case did not open until July 29, 2025. *Markman* briefing was not complete until July 17, 2025, and the district court did not hold its Markman hearing until August 28, 2025. EX2003, EX2004. As of the filing of this brief, no fact depositions have been scheduled or taken. The Board's decision on whether to

institute is expected on approximately January 10, 2026, which is before the close of fact discovery, currently scheduled for February 24, 2026.

The district court's investment in the underlying litigation to-date consists of one hearing, and one opinion on claim construction. The investment of the Court and the Parties to the litigation in the following phases of litigation are significantly greater, as expert discovery opens, dispositive briefing is filed, and the parties begin to prepare for trial. If Apple's IPRs are instituted, Apple plans to request a stay of the litigation. This allows for CardWare or the Court to optionally avoid the investment in parallel proceedings if either so chooses.[8]

6. CardWare's Commercialization Claims Are Overstated

As further evidence that there are no settled expectations, there is reason to doubt the extent of CardWare's "commercialization" efforts. CardWare includes two conclusory sentences in its discretionary denial brief alleging that it has "devoted significant resources to develop and commercialize secure systems for electronic payments…over the last decade-plus." Paper 7, 19. In support, CardWare cites three paragraphs of its complaint against Apple. EX2007, ¶¶14-17. Paragraph 15 of the Complaint states that CardWare's innovations include its "SmartTokenization™

[8] Judge Albright has historically granted joint or unopposed motions to stay the litigation pending resolution of instituted IPR proceedings. EX1083.

technology." CardWare filed an "Intent to Use" trademark application for this mark on February 28, 2024, but stated it does not currently use the mark. EX1084.

Further, CardWare's current "Card+" app has no payment features. EX1085. Instead, it allows users to check links and text for "Phishing." *Id.* An informational "Product Gallery" page purportedly describes CardWare's payment platform but provides no link for a user to sign-up or even contact CardWare for more information. *Id.* The app does not allow any users to make mobile payments or otherwise practice any of the patent claims at issue. In addition, the app has less than 5 total downloads, though the latest version has been available for over two months. EX1086. This further suggests limited commercialization.

IV. CONCLUSION

For the forgoing reasons, Petitioner respectfully requests *inter partes* review of the Challenged Claims.

Respectfully submitted,

ERISE IP, P.A.

BY: /s/ Adam P. Seitz
Adam P. Seitz, Reg. No. 52,206
adam.seitz@eriseip.com
7015 College Boulevard, Suite 700
Overland Park, Kansas 66211
(913) 777-5600 Telephone
(913) 777-5601 Facsimile

COUNSEL FOR PETITIONER

APPENDIX OF EXHIBITS

Exhibit 1001	U.S. Patent No. 11,620,634 (the "'634 Patent")
Exhibit 1002	File History of the '634 Patent ("the '634 File History")
Exhibit 1003	Declaration of Dr. Neuman
Exhibit 1004	U.S. Patent Publication No. 2013/0262317 to Collinge et al. ("Collinge")
Exhibit 1005	U.S. Provisional Patent Application No 61/619,095 to Collinge et al. ("'095 Provisional")
Exhibit 1006	U.S. Provisional Patent Application No 61/635,248 to Collinge et al. ("'248 Provisional")
Exhibit 1007	U.S. Provisional Patent Application No 61/735,383 to Collinge et al. ("'383 Provisional")
Exhibit 1008	U.S. Provisional Patent Application No 61/762,098 to Collinge et al. ("'098 Provisional")
Exhibit 1009	Intentionally left blank
Exhibit 1010	U.S. Patent Publication No. 2010/0125508 to Smith ("Smith)")
Exhibit 1011	U.S. Patent Publication No. 2005/0043997 to Sahota et al. ("Sahota")
Exhibit 1012	WIPO International Publication No. WO 2010/039337 to Lin et al. ("Lin")
Exhibit 1013	U.S. Patent Publication No. 2010/0125509 to Kranzley et al. ("Kranzley")
Exhibit 1014	U.S. Patent Publication No. 2009/0320123 to Yu et al. ("Yu")
Exhibit 1015	U.S. Patent Publication No. 2009/0083850 to Fadell et al. ("Fadell")
Exhibit 1016	CardWare Inc.'s Preliminary Proposed Claim Constructions
Exhibit 1017	Intentionally Left Blank
Exhibit 1018	Intentionally Left Blank
Exhibit 1019	Intentionally Left Blank
Exhibit 1020	IBM, The Magnetic Stripe, IBM, https://www.ibm.com/history/magnetic-stripe. ("IBM")
Exhibit 1021	Vedat Coskun, Near Field Communication: Theory to Practice (John Wiley & Sons, 1st ed. 2012) ("Coskun")
Exhibit 1022	MagTek, Magnetic Stripe Card Standards, (MagTek Inc. eds., 2011) ("MagTek")
Exhibit 1023	EMVCo, LLC, EMV Integrated Circuit Card Specifications for Payment Systems: Book 2 – Security and Key Management (EMVCo, LLC eds., Version 4.3 2011) ("EMV")
Exhibit 1024	Klaus Finkenzeller, RFID Handbook (John Wiley & Sons, 3rd ed. 2010) ("Finkenzeller")

Exhibit 1025	MasterCard, MasterCard PayPass ™ in Action, MasterCard (Jun. 11, 5:35 PM), https://www.mastercard.com/us/company/en/ourbusiness/paypass_in_action.html#:~:text=MasterCard%20PayPass%E2%84%A2%20in%20Action&text=Developed%20to%20replace%20the%20need,the%20way%20they%20view%20cash. ("PayPass")
Exhibit 1026	Smart Card Alliance, EMV and NFC: Complementary Technologies that Deliver Secure Payments and Value-Added Functionality (Smart Card Alliance, Inc. eds., 2012) ("Smart")
Exhibit 1027	U.S. Patent Publication No. 2012/0011058 to Pitroda et al. ("Pitroda")
Exhibit 1028	MasterCard, MasterCard Approved Mobile Devices, MasterCard (Aug. 3, 2012), http://www.mastercard-mobilepartner.com/docs/MasterCard_Approved_Mobile_Devices.pdf, [https://web.archive.org/web/20120906234255/http://www.mastercard-mobilepartner.com:80/docs/MasterCard_Approved_Mobile_Devices.pdf] ("MasterCard Mobile Partner")
Exhibit 1029	U.S. Patent Publication No. 2013/0054474 to Yeager ("Yeager")
Exhibit 1030	EMVCo, LLC, EMV Chip At-a-Glance: Enabling Seamless and Secure Contact and Contactless Payments Around the World, EMVCo (2002), https://www.emvco.com/wp-content/uploads/2022/09/EMV%C2%AE-Chip-At-A-Glance-EMVCo-eBook.pdf ("EMVCo")
Exhibit 1031	Scoping SIG & Tokenization Taskforce PCI Security Standards Council, PCI Data Security Standard (PCI DSS) – Information Supplement: PCI DSS Tokenization Guidelines (pci Security Standards Council eds., Version 2.0 2011) ("PCI SSC")
Exhibit 1032	Alessandro Vizzarri et al., Security in Mobile Payments (2013) ("Vizzarri")
Exhibit 1033	U.S. Patent Publication No. 2008/00110983 to Ashfield ("Ashfield")
Exhibit 1034	U.S. Patent Publication No. 2014/0310113 to Sengupta et al. ("Sengupta")
Exhibit 1035	U.S. Patent Appl. No. 2012/0169593 to Mak et al. ("Mak")
Exhibit 1036	U.S. Patent Appl. No. 2012/0148115 to Birdwell et al. ("Birdwell")
Exhibit 1037	U.S. Patent Appl. No. 2007/0076923 to Chiu et al. ("Chiu")
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Exhibit 1039	Ann Cavoukian, Mobile Near Field Communications (NFC) "Tap 'n Go" Keep it Secure & Private, IPC (2011),

	https://www.ipc.on.ca/sites/default/files/legacy/Resources/mobile-nfc.pdf ("Cavoukian")
Exhibit 1040	Annika Paus, Near Field Communication in Cell Phones (2017) ("Paus")
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Exhibit 1042	U.S. Patent Publication No. 2006/0097991 to Hotelling et al. ("Hotelling")
Exhibit 1043	U.S. Patent No. 7,580,898 to Brown et al. ("Brown")
Exhibit 1044	U.S. Patent No. 10,181,121 ("Roberts")
Exhibit 1045	U.S. Patent Publication No. 2013/0151292 to Van Deloo et al. ("Deloo")
Exhibit 1046	U.S. Patent Publication No. 2006/0186195 to Gray ("Gray")
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Exhibit 1048	Anup K. Ghosh & Tara M. Swaminatha, Software Security and Privacy Risks in Mobile E-Commerce, 44 CACM 51 (2001) ("Ghosh")
Exhibit 1049	U.S. Patent Appl. No. 2011/0140841 to Bona et al. ("Bona")
Exhibit 1050	Notice of Sotera Plus Stipulation *CardWare Inc. v. Apple Inc.*, Civil Action No. 1:25-cv-00446
Exhibit 1051	Intentionally Left Blank
Exhibit 1052	Intentionally Left Blank
Exhibit 1053	Intentionally Left Blank
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Exhibit 1060	Intentionally Left Blank
Exhibit 1061	Intentionally Left Blank
Exhibit 1062	U.S. Patent Application No. 61/894,891
Exhibit 1063	U.S. Patent No. 9,022,286
Exhibit 1064	"Apple Announces Apple Pay" Press Release (Sept. 9, 2014), https://web.archive.org/web/20170806100808/https://www.apple.com/newsroom/2014/09/09Apple-Announces-Apple-Pay/
Exhibit 1065	File History of U.S. Patent No. 10,339,520
Exhibit 1066	File History of U.S. Patent No. 10,628,820

Exhibit 1067	"Apple Announces iPhone 5s" Press Release (Sept. 10, 2013), https://www.apple.com/newsroom/2013/09/10Apple-Announces-iPhone-5s-The-Most-Forward-Thinking-Smartphone-in-the-World/
Exhibit 1068	*Samsung Electronics Co., Ltd. v. CardWare Inc*., PGR2023-00012, Paper 14 (PTAB, Aug. 11, 2013) (Institution Decision)
Exhibit 1069	*Samsung Electronics Co., Ltd. v. CardWare Inc*., PGR2023-00013, Paper 14 (PTAB, Aug. 11, 2013) (Institution Decision)
Exhibit 1070	*CardWare Inc*. v. *Samsung Electronics Co., Ltd.*, Civ. No. 2:22-cv-00141-JRG-RSP, Dkt. 35 (Nov. 22, 2022) (Notice of Compliance, Invalidity Contentions)
Exhibit 1071	Intentionally Left Blank
Exhibit 1072	File History of U.S. Patent No. 11,328,286
Exhibit 1073	Search Recreation, Googlepatents.com
Exhibit 1074	European Patent No. EP 2,835,004 B1
Exhibit 1075	Infringement Contentions from *CardWare Inc. v. Apple Inc.,* Civ. No. 7:24-cv-00279-ADA (Feb. 10, 2025)
Exhibit 1076	*AlmondNet, Inc. et al. v. Amazon.com Inc. et. al,* Civ No. 21-cv-008980-ADA, Dkt. 238 (Jan. 5, 2024) (Order Canceling Trial)
Exhibit 1077	*IOEngine, LLC v. Roku Inc.,* Civ. No. 6:21-cv-1296, Dkt. 309 (Sept. 23, 2023) (Hearing Transcript)
Exhibit 1078	*Polaris Innovations Ltd. v. Qualcomm Inc., et al,*. Civ. No. 7:24-cv-00296-ADA, Dkt. 31 (Mar. 10, 2025) (Scheduling Order)
Exhibit 1079	*Polaris Innovations Ltd. v. Qualcomm Inc., et al,*. Civ. No. 7:24-cv-00296-ADA, Dkt. 1 (Nov. 19, 2024) (Complaint)
Exhibit 1080	Docket Navigator, Albright Trial List
Exhibit 1081	U.S. District Court – Judicial Caseload Profile
Exhibit 1082	Docket Navigator, WDTX Time to Trial
Exhibit 1083	Docket Navigator, Stipulated/Agreed Motions to Stay, Albright
Exhibit 1084	Trademark Status & Document Retrieval Report, Mark: SMARTTOKENIZATION (Application Filing Date: Feb. 28, 2024)
Exhibit 1085	Card+ App Screenshots
Exhibit 1086	Google Play Store Listing, Card_ V5L by CardWare
Exhibit 1087	File History of U.S. Patent No. 10,810,579

CERTIFICATE OF SERVICE ON PATENT OWNER
UNDER 37 C.F.R. § 42.105(a)

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(b), the undersigned certifies that on October 10, 2025, a complete and entire copy of this *Opposition to Patent Owner's Request for Discretionary Denial* and Exhibits were served via electronic filing with the Board and via Electronic Mail on the following practitioners of record for Patent Owner:

Matthew G. Berkowitz (mberkowitz@reichmanjorgensen.com)
Patrick R. Colsher (pcolsher@reichmanjorgensen.com)
Khue V. Hoang (khoang@reichmanjorgensen.com)
Yue (Joy) Wang (ywang@reichmanjorgensen.com)
Timothy A. Trost (ttrost@reichmanjorgensen.com)
RJ_CardWare_AppleIPR@reichmanjorgensen.com

Respectfully submitted,

ERISE IP, P.A.

BY: /s/ Adam P. Seitz

Adam P. Seitz, Reg. No. 52,206
adam.seitz@eriseip.com
7015 College Boulevard, Suite 700
Overland Park, Kansas 66211
(913) 777-5600 Telephone
(913) 777-5601 Facsimile

COUNSEL FOR PETITIONER