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. IPR2025-01145
U.S. Patent No. 10,339,520

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

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I. INTRODUCTION

Apple Inc. ("Petitioner") respectfully requests *inter partes* review ("IPR") of claims 1-17 ("Challenged Claims") of U.S. Patent No. 10,339,520 ("'520 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 '520 Patent is one of six challenged patents in the same family of payment processing patents asserted by CardWare against Apple.[1] There is ample reason to doubt both the validity of these patents and that the examiner considered the most relevant references. In the relevant timeframe, MasterCard and Visa were prolific patent filers and major contributors to the leading global payment standard, EMV (EuroPay, MasterCard, and Visa). *See e.g.,* EX1003, ¶¶45-47. But not one MasterCard or Visa reference can be found cited in the prosecution history or on the face of the '520 Patent. Every one of Apple's IPRs relies on between 1 and 5 Visa or MasterCard references. Had the Examiner considered this art, or conducted a meaning examination, these patents never would have issued.

No settled expectations favor CardWare. The '520 Patent issued on July 2, 2019. Claims 1 and 4-17 were the subject of an IPR filed by Samsung in November 2022. Because Apple's Petition challenges claims 2 and 3, not challenged in the

[1] IPR2025-01145; IPR2025-01146; IPR2025-01147; IPR2025-01148; IPR2025-01149; IPR2025-01150; IPR2025-01151; IPR2025-01152.

Samsung's IPR, there is no settled expectation those claims are valid. Further, while Samsung's IPR was not instituted, it was filed in November 2022, about 2.5 years after the '520 Patent issued, which is before expectations were strongly settled. A petition for IPR "will generally not be discretionarily denied because of an earlier petition for post-grant review [filed before expectations settled] when the [earlier petition] was not instituted." *See* IPR2025-00454, Paper 11 at 1 (July 11, 2025).

Moreover, in Samsung's IPRs, the Board found that Samsung's apparent construction of "a static device account number" was not supported by the specification and that Samsung's "obviousness rationale is unsupported by the evidence." IPR2023-00210, Paper 13 at 8-9, 14-15. Apple's IPR relies on a reference teaching that a "static device account number" was well-known and supported the combinations with expert testimony. Petition at 20-27; *see also* EX1003, ¶¶ 130-139; *see also id*., ¶¶ 81-85. There are no settled expectations in claiming such well-known features or where a prior petition applied a claim construction inconsistent with the specification and did not adequately support its obviousness rationale.

Further, all six patents CardWare asserts against Apple issued years ***after*** CardWare's alleged 2017 meeting with Apple and after CardWare made significant shifts in 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 ("WDTX") 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 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 and ensures this IPR is a true alternative for those invalidity questions which are properly raised in an IPR.

Therefore, the "efficiency and integrity of the [patent] system are best served by" instituting review of the '520 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 '520 PATENT

A. CardWare's Provisional Application

On March 15, 2013—the day before the provisions of the AIA took effect—Mr. David Wyatt filed a 19-paragraph provisional application. EX1062. Mr. Wyatt described a purported invention relating to "credit cards and, more specifically, to

more secure, smarter credit cards." *Id.*, [0001]. The specification primarily described magnetic stripe emulation technology, including an inductor assembly for generating a magnetic field and rate detection assemblies that detect how quickly the user swipes their credit card. *Id.*, [0011]-[0012], claim 1. The specification further mentioned use of "dynamically created credit card numbers." *Id.,* [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 '286 Patent). EX1063. The claims were again directed to magnetic stripe emulation technology. *See id*., claims 1, 15. This patent is not asserted against, nor challenged by, Apple. CardWare continued to receive patents, but no patents issued to CardWare prior to 2019 have been asserted against Apple (or anyone else).

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 the '520 Patent, CardWare amended its claims from a "credit card device" to an "electronic device" (EX1002, 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. The new images also refer to a "MASTERCARTE" payment card, with a logo of three overlapping circles.

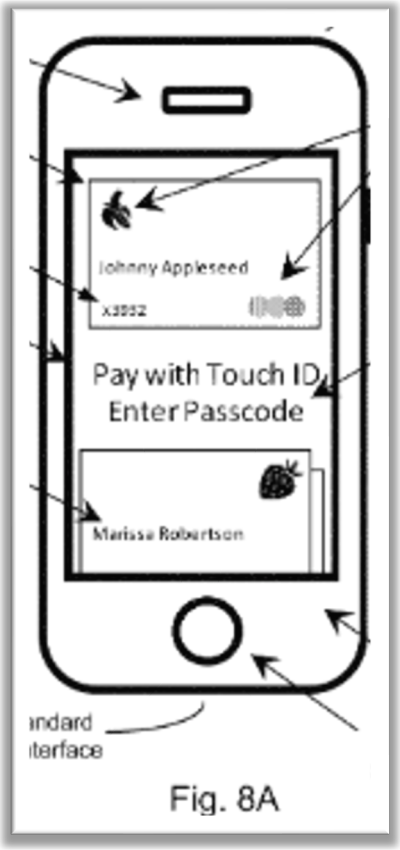

Fig. 8A

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, CardWare began including 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 challenge the priority date in these IPRs, CardWare's shifting claim scope undermines any allegation of settled expectations.

Despite the new claim scope, CardWare's post-2017 patents received limited scrutiny at the Patent Office. Of the six challenged patents, five issued without any

[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 provisional application). Limitations such as "static device account number", "device specific account number", "touch ID button", "biometric sensor", "status" and "receiving a request" also first appeared in CardWare's applications (see e.g., EX1002, 109-121) (prosecution of the '520 Patent), but those terms are absent from its provisional application or early patents.

prior art rejections;[3] most faced only double patenting rejections or restriction requirements. The ’520 Patent was subject to a double-patenting rejection (EX1002, 67-70), but received no other rejections. No MasterCard or Visa references were considered by the examiner or are found on the face of the ’520 Patent.

The first (and only) time MasterCard or Visa references appear in the prosecution history for ***any*** of CardWare’s 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 ’634 Patent application was pending, CardWare sued Samsung on five patents in this family. Samsung provided invalidity contentions on November 7, 2022. EX1070. The ’634 Patent received a notice of allowance on November 16, before CardWare informed the Examiner of Samsung’s invalidity contentions. EX1071, 452. CardWare filed a RCE with a new IDS on January 12, 2023. EX1071, 1429. The IDS included approximately 275 prior art references. Buried among the 275+ documents was a single patent assigned to MasterCard, a single patent assigned to Visa, and a handful of news articles relating to MasterCard and Visa payment systems. The examiner did not initial next to any references on the IDS. The ’634 Patent was summarily issued with no further rejections.

D. Description of the ’520 Patent

[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.

The challenged claims of the ’520 Patent include two independent claims, directed to an “electronic device” comprising various hardware components and “methods of storing and generating payment information.” *’520 Patent* (EX1001) at claims 1, 10. The electronic device is programmed to, among other things, “accept[] a user input of issued payments information,” “wirelessly receiv[e] a static device account number,” “dynamically-generat[e] a one-time limited use numbers based on at least one set of information,” and “us[e]” the static device account number and dynamically generated number in place of issuer provided payment information. *Id.*

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 ’520 Patent

The Director has previously found “it 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,* IPR2025-00559, Paper 9 (Director Rev. July 16, 2025). No MasterCard or Visa references appear on the face of the ’520 Patent or were cited by the Examiner during prosecution, even though MasterCard and Visa were the undisputed leaders in payment processing and prolific patent filers. *See* EX1003, ¶¶47, 49, 57-59. MasterCard made contactless payments possible many years before CardWare’s provisional patent filing. *See* EX1003, ¶¶60-65.

It was not until years later, during prosecution of the '286 Patent, that an examiner first acknowledged the relevance of MasterCard and Visa. EX1072, 145. That examiner searched Google Patents for Assignee(s) Mastercard and Visa, but still did not issue any prior art rejection or cite any prior art reference assigned to MasterCard or Visa. *See* IPR2025-01151, Paper 8 at 9-10. The Examiner materially erred by failing to issue ***any*** prior art rejections during examination of the '520 Patent and, specifically, by failing to consider any of MasterCard or Visa's patent filings.

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.[4] The claims vary in scope and many 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. In addition, 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,

[4] 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.

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 Petition relies on Toomer to teach each limitation of independent claim 1, and dependent claims 11-13, other than "accepting a user input of issued payment information at a touchscreen," "receiving a static device account number," and "dynamically generating a one-time limited-use number based on [information]." *See* Petition, 13-18 (claim 10(a)); 20-33 (claim 10(d)-(f)). These limitations were well-known features of payment systems at the time, as shown by Grigg (assigned to Bank of America) and Hammad (assigned to Visa), also not considered by the Office, and it would have been obvious to a POSITA to make these minor modifications to Toomer. *Id; see also*, EX1003, ¶¶115-123, 130-163. These same references are used to demonstrate claim 1 is invalid, with the exception of the limitation relating to a "motion rate detection array." *See* Petition, 47-49 (claim 1(d)). This was a well-known feature of devices (e.g., mobile phone) used in

payment transactions, as taught by Casey, which was also not considered during prosecution. *Id; see also*, EX1003, ¶¶224-227. The remaining claims of the '520 Patent likewise should never have issued, as the Petition demonstrates. Further analysis of the Challenged Claims' invalidity can be found in the Petition.

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

1. No Settled Expectations Favor Discretionary Denial

The '520 Patent is just over six years old. The Director has indicated that patent holders do not have strong settled expectations for patents in force for six or less years. *See Cambridge Indus. USA, Inc. v. Applied Optoelectronics, Inc.*, IPR2025-00433 (PTAB June 26, 2025). Even if there were some level of settled expectations, discretionary denial is still inappropriate. There is no question that CardWare has not developed settled expectations in any of its five other challenged patents, so it is an efficient and appropriate use of the Board's resources to consider the '520 Patent along with the others, as a member of the same patent family. *See Embody, Inc. v. LifeNet Health*, IPR2025-00248, Paper 13 at 2 - 3 (PTAB June 26, 2025) (efficient use of Board resources to address a seven-year-old patent with settled expectations because it was the parent of the other three-year-old patent that had no settled expectations). The events after issuance of the '520 Patent further undermine any settled expectations claim for the '520 Patent.

Events Pre-Dating the '520 Patent Do Not Support CardWare's Narrative

CardWare's brief relies heavily on events that pre-date not only the issuance of the '520 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 with claims directed to magnetic stripe emulation technology. EX1063 (claim 1). 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. EX1001.

Events After '520 Issuance Demonstrate a Lack of Settled Expectations

None of these events create settled expectations for the '520 Patent—a patent that had not issued and is of a different scope from CardWare's pre-2017 patents. To the contrary, the events that do relate to the '520 Patent support an expectation that the '520 Patent is likely unpatentable.

2022: Apple receives a subpoena from Samsung, identifying the '520 Patent and exploring Apple products as likely ***prior art*** to the '520 Patent. EX2011.

2023: CardWare sends a letter to Apple identifying the '520 Patent, listed among 11 other patents, including 5 patents not 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 made available on October 20. 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 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 "smarter credit cards" and the 19-paragraph specification focused primarily on inductor assemblies and similar hardware. EX1062, [0001].

Over time, CardWare has stretched the scope of its claims 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 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 declined to find any claim terms indefinite. *See* EX2023. Thus, there is no 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.

The history of Claim 1 of the '520 Patent also demonstrates why the Board's review of the claims is timely and a good use of Board resources. The '520 Patent will not expire until March 17, 2034. The meaning of the term "the payment information" in claim 1 was previously disputed in district court and in Samsung's IPR. The two forums reached different conclusions. The magistrate provided a report finding "the payment information" indefinite for failing to have an antecedent basis. EX1088. CardWare filed objections (EX1089) and before the district court judge adopted or rejected the magistrate's report, the case settled. In the meantime, Samsung filed a motion for a rehearing on the denial of its IPR petition, challenging

the Board's claim interpretation. EX1090.

Critically, even after this, CardWare chose to assert claims 1-9 of the '520 Patent against Apple. *See* EX1075 (identifying asserted claims 1-20, 22-23). CardWare subsequently stated it "***will drop*** its assertion of claim 1 (and dependent claims 2-9) of the '520 Patent." EX2015, 1 (emphasis added). CardWare did not amend its infringement contentions or otherwise inform the Court regarding this choice. CardWare should be held to its representation, but there is no reason to decline to review the validity of claims 1-9 now, early in the life of the '520 Patent.

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 WDTX. The USPTO's March 24, 2025 Memorandum states that "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 statistics.[5] Applying that time period, 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

[5] 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).

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 its suit against Apple. Therefore, it is likely that the *Polaris* case will receive priority, which would force this 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.[6] 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 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*

[6] 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.

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, nor can Apple 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). 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 *Sotera*+ stipulation is "ineffective." Not so. PO's objection amounts to a complaint that the IPRs (and related stipulations) cannot resolve a host of validity questions Apple is not allowed to raise here, including §101, §112, and §102(g). PO further complains that Apple's stipulation does not limit what other defendants in CardWare 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 was filed on June 24, 2025, more than 5 months before Apple's 1-year bar date. Discovery opened July 29, *Markman* briefing was not complete until July 17, and the *Markman* hearing occurred on August 28. EX2003, EX2004. As of the filing of this brief, no fact depositions have been scheduled or taken. The Board's institution decision is expected on approximately January 10, 2026, well before the scheduled close of fact discovery on February 24, 2026.

The district court's investment to-date consists of one hearing and one claim construction order. The following phases of litigation require significantly greater investment, 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 avoid the investment in parallel proceedings if either so chooses.[7]

6. CardWare's Commercialization Claims Are Overstated

As further evidence that there are no settled expectations, there is reason to

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

doubt the extent of CardWare's "commercialization" efforts. CardWare includes two conclusory sentences alleging it has "devoted significant resources to develop and commercialize secure systems for electronic payments…over the last decade-plus." Paper 8, 19. In support, CardWare cites three paragraphs of its complaint. EX2007, ¶¶14-17. Among its purported innovations is "SmartTokenization™ technology." *Id*., ¶15. CardWare filed an "Intent to Use" trademark application on February 28, 2024, for SmartTokenization, 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 contains a purported description of CardWare's payment platform but provides no link for a user to sign-up or even contact CardWare for more information. The app does not allow any users to make mobile payments or otherwise practice any of the patent claims. In addition, the app has less than 5 total downloads, though the latest version has been available for over 2 months. EX1086. This further suggests that commercialization efforts have been limited.

C. The Length of the Claims and Limited Overlap in Claim Language Support the Need for Multiple Petitions.

CardWare's complaints regarding multiple petitions are better assessed in the context of a decision on the merits than in the context of discretionary denial. Regardless, the presence of multiple petitions, on its own, is not sufficient to discretionarily deny otherwise strong cases for invalidity based on prior art not

previously considered by the Office. The Board has previously recognized that separate petitions addressing the significant differences between claims 1-17 and claims 18-24 of the '520 Patent are appropriate. *See* IPR2023-00211, Paper 13 at 2 (instituting IPR on claims 18-24, the petition ranked second). The complexity of the independent claims—with 7-14 limitations each—further supports two petitions. *See* Paper 3 at 4-5. While there is some overlap in prior art across the two petitions, two different primary references are used for the independent claims to address issues unique to those claims. *Id*. Moreover, all 24 claims (totaling over 1,900 words) of the '520 Patent were originally asserted in the litigation and instituting only one petition would bifurcate the question of invalidity on the same patent.

CardWare's reference to Apple's use of prior art in its invalidity contentions and claims being dropped in the litigation are irrelevant. First, the use of prior art in the litigation will be limited due to Apple's Sotera+ Stipulation. Second, the dropping of claims in litigation is of no relevance as Apple is not limited to challenging only claims asserted in litigation. Given that two petitions are necessary to address the complexity and length of the claims and have the question of validity decided by the same tribunal, discretionary denial is not warranted.

IV. CONCLUSION

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

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APPENDIX OF EXHIBITS

Exhibit 1001	U.S. Patent No. 10,339,520 to Wyatt ("the '520 patent")
Exhibit 1002	Prosecution History of the '520 patent ("the Prosecution History")
Exhibit 1003	Expert Declaration of Dr. Clifford Neuman
Exhibit 1004	U.S. Pub. No. 2009/0210308 ("Toomer")
Exhibit 1005	U.S. Pub. No. 2014/0006276 ("Grigg")
Exhibit 1006	U.S. Patent No. 7,740,168 ("Hammad")
Exhibit 1007	U.S. Pub. No. 2012/0290449 ("Mullen")
Exhibit 1008	WIPO Publication No. 2010/039337 ("Lin")
Exhibit 1009	U.S. Patent No. 8,255,323 ("Casey")
Exhibit 1010	WIPO Publication No. 2009/082760 ("Mullen '760")
Exhibit 1011	U.S. Pub. No. 2011/0070826 ("Griffin")
Exhibit 1012	CardWare Inc.'s Preliminary Proposed Claim Constructions
Exhibit 1013	Intentionally Left Blank
Exhibit 1014	Intentionally Left Blank
Exhibit 1015	Intentionally Left Blank
Exhibit 1016	Intentionally Left Blank
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	Intentionally Left Blank
Exhibit 1035	"Smart Card Technology: New Methods for Access Control" ("*Smart Card Tech.*")
Exhibit 1036	U.S. Patent No. 5,528,222 ("Moskowitz")
Exhibit 1037	"The Electronic Purse" ("Wenninger")
Exhibit 1038	U.S. Patent 5,594,233 ("Kenneth")
Exhibit 1039	U.S. Patent No. 7,004,385 ("Douglass")
Exhibit 1040	U.S. Pub. No. 2007/0265984 ("Sanantha")
Exhibit 1041	U.S. Pub. No. 2012/0197691 ("Grigg")
Exhibit 1042	U.S. Patent Publication No. 2010/0125509 ("Kranzley")
Exhibit 1043	U.S. Pub. No. 2011/0140841 ("Bona")
Exhibit 1044	U.S. Pub. No. 2009/0307132A1 ("Phillips")

Exhibit 1045	"A Monolithic Three-Axis Silicon Capacitive Accelerometer with Micro-G Resolution," J. Che, et al., *TRANSDUCERS '03. 12th International Conference on Solid-State Sensors, Actuators and Microsystems*. Digest of Technical Papers, Boston, MA, USA, 2003, pp. 81-84 vol.1
Exhibit 1046	U.S. Patent No. 8,351,910 ("Horodezky")
Exhibit 1047	U.S. Patent No. 8,952,832 ("Nasiri")
Exhibit 1048	U.S. Patent No. 6,938,484 ("Najafi")
Exhibit 1049	U.S. Patent No. 7,258,012 ("Xie")
Exhibit 1050	U.S. Patent No. 8,892,390 ("MacGougan")
Exhibit 1051	Apple Presents iPhone 4, available at: https://www.apple.com/newsroom/2010/06/07Apple-Presents-iPhone-4/
Exhibit 1052	"Motion sensing in the iPhone 4: MEMS accelerometer," MEMS Journal -- The Largest MEMS Publication in the World, available at: https://www.memsjournal.com/2010/12/motion-sensing-in-the-iphone-4-mems-accelerometer.html
Exhibit 1053	Handhelds and PDAs_ Motorola ES400, available at: https://www.ruggedpcreview.com/3_handhelds_motorola_es400.html
Exhibit 1054	Review of the Motorola Droid from Verizon Wireless — Digital Bits Technology Column, available at: https://www.andybrain.com/2009/review-of-the-motorola-droid-from-verizon-wireless/
Exhibit 1055	Top 10 HTC Smartphones of 2011 _ IBTimes, available at: https://www.ibtimes.com/top-10-htc-smartphones-2011-388788
Exhibit 1056	U.S. Pub. No. 2009/0320123A1 ("Yu")
Exhibit 1057	U.S. Patent No. 9,721,319 ("Smets")
Exhibit 1058	U.S. Pub. No. 2013/0087627A1 ("Marseille")
Exhibit 1059	U.S. Patent No. 8,909,138 ("Rhelimi")
Exhibit 1060	Cardware's Preliminary Infringmenet Contentions, *CardWare Inc. v. Apple Inc.*, Civil Action No. 7:24-cv-00279-ADA
Exhibit 1061	Notice of Sotera Plus Stipulation *CardWare Inc. v. Apple Inc.*, Civil Action No. 1:25-cv-00446
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	Intentionally Left Blank
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	File History of U.S. Patent No. 11,620,634
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
Exhibit 1088	*CardWare Inc*. v. *Samsung Electronics Co., Ltd.*, Civ. No. 2:22-cv-00141-JRG-RSP, Dkt. 138 (August 23, 2023) (Claim Construction Order)

Exhibit 1089	*CardWare Inc*. v. *Samsung Electronics Co., Ltd.*, Civ. No. 2:22-cv-00141-JRG-RSP, Dkt. 149 (Sept. 6, 2023) (CardWare's Objections to Claim Construction)
Exhibit 1090	*Samsung Electronics Co., Ltd. v. CardWare Inc*., IPR2023-00210, Paper 16 (PTAB, Aug. 10, 2023) (Decision on Rehearing)

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 was served via electronic filing with the Board and via Electronic Mail on the following practitioners of record for Patent Owner:

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