

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner

v.

CARDWARE INC.,
Patent Owner

Case No. IPR2025-01361
U.S. Patent No. 11,620,634

PATENT OWNER'S PRELIMINARY RESPONSE

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PATENT OWNER’S EXHIBIT LIST

No.	Exhibit Description
2001	Memorandum for Interim Processes for PTAB Workload Management, dated March 26, 2025
2002	Interim Director Discretionary Process <i>available at</i> https://www.uspto.gov/patents/ptab/interim-director-discretionary-process
2003	First Agreed Scheduling Order in <i>CardWare Inc. v. Google LLC</i> , No. 7:24- cv-00278-DC-DTG (W.D. Tex. Mar. 6, 2025)
2004	Complaint in <i>CardWare Inc. v. Google LLC</i> , No. 7:24-cv-00278-DC-DTG (W.D. Tex. Mar. 6, 2025)
2005	Order and Advisory in <i>CardWare Inc. v. Google LLC</i> , No. 7:24-cv-00278- DC-DTG (W.D. Tex. Nov. 5, 2024)
2006	Order Denying Defendants’ Motion to Stay in <i>Quantum Imaging, LLC v. Sony Interactive Entm’t Inc.</i> , No. 1:23-cv-1212-ADA-DTG (W.D. Tex. Dec. 4, 2024) (Gilliland)
2007	Agreed Scheduling Order in <i>CardWare Inc. v. Apple Inc.</i> , No. 1:25-cv- 00446-ADA (W.D. Tex. May 20, 2025)
2008	Complaint in <i>CardWare Inc. v. Apple Inc.</i> , No. 1:25-cv-00446-ADA (W.D. Tex. Nov. 4, 2024)
2009	Standing Order Governing Proceedings (OGP)—Patent Cases for cases before Judge Albright (dated Mar. 5, 2025)
2010	Report and Recommendation Denying The Defendants’ Motion to Dismiss in <i>CardWare Inc. v. Google LLC</i> , No. 7:24-cv-00278-DC-DTG (W.D. Tex. Aug. 15, 2025)
2011	Claim Construction Memorandum and Order in <i>CardWare Inc. v. Google LLC</i> , No. 7:24-cv-00278-DC-DTG (W.D. Tex. Aug. 28, 2025)
2012	Order Denying the Defendant’s Motion to Transfer Venue to the Northern District of California in <i>CardWare Inc. v. Google LLC</i> , No. 7:24-cv-00278- DC-DTG (W.D. Tex. Aug. 7, 2025)
2013	Claim Construction Order in <i>CardWare Inc. v. Apple Inc.</i> , No. 1:25-cv- 00446-ADA (W.D. Tex. Aug. 29, 2025)
2014	Email from counsel for Petitioner to counsel for Patent Owner, dated Aug. 21, 2025
2015	Defendant Google LLC’s Invalidity Contentions in <i>CardWare Inc. v. Google LLC</i> , No. 7:24-cv-00278-DC-DTG (W.D. Tex. Apr. 3, 2025)

No.	Exhibit Description
2016	Exhibit I to Defendant Google LLC’s Invalidity Contentions in <i>CardWare Inc. v. Google LLC</i> , No. 7:24-cv-00278-DC-DTG (W.D. Tex. Sept. 18, 2025)
2017	DocketNavigator Time to Trial Statistics for Patent Cases in the Western District of Texas
2018	Defendants’ Notice of Subpoena to Google in <i>CardWare Inc. v. Samsung Elecs. Co., Ltd.</i> , No. 2:22-cv-00141-JRG-RSP (E.D. Tex. Feb. 2023)
2019	Letter from CardWare, Inc. to Google LLC dated October 10, 2023 “RE: Patent Portfolio of CardWare Inc.”
2020	Proof of Delivery to Apple Inc. for Letter from CardWare, Inc. to Google LLC dated October 10, 2023 “RE: Patent Portfolio of CardWare Inc.”
2021	Petition for <i>Inter Partes</i> Review of Pat. 10,339,520 in IPR2023-00210, by Petitioner Samsung Electronics Co., Ltd.
2022	Petition for <i>Inter Partes</i> Review of Pat. 10,810,579 in IPR2023-00196, by Petitioner Samsung Electronics Co., Ltd.
2023	Order Adopting Report and Recommendation Denying The Defendants’ Motion to Dismiss in <i>CardWare Inc. v. Google LLC</i> , No. 7:24-cv-00278- DC-DTG (W.D. Tex. Sept. 3, 2025)

I. INTRODUCTION

On July 29, 2025, Google LLC (“Google” or “Petitioner”) filed a Petition requesting *inter partes* review of claims 1-72 (“Challenged Claims”) of U.S. Patent No. 11,620,634 (“the ’634 Patent”) (EX1001), entirely on three multi-reference combination obviousness grounds (Grounds “1A,” “1B,” and “1C”). Paper 1 (“Petition” or “Pet.”). On August 5, 2025, the Board issued a Notice of Filing Date Accorded for the Petition and set the time for filing Patent Owner’s Preliminary Response. Paper 5.

The Board should deny institution because Petitioner fails to meet its burden of demonstrating that its proposed combinations render obvious any of the Challenged Claims for several reasons.

First, for its challenge to claims 1-38, Petitioner’s proposed combinations fail to disclose using generated limited-use payment information “in place of” issued payment information in connection with the payment transaction, as in elements [1.j] and [29.h] of independent claims 1 and 29. Petitioner relies exclusively on Gomez for this requirement. Petitioner’s challenge, however, mixes and matches Gomez’s “manual” and “automatic” embodiments. The “manual” embodiment of Gomez is critical to Petitioner’s position regarding elements [1.g] and [29.e] (and overall obviousness theory) because it is the only Gomez embodiment meeting that limitation requiring that issued payment information is “display[ed]” and “selected.”

But, unlike the “automatic” embodiment, Gomez never explains what information is transmitted to a merchant in connection with the “manual” embodiment, including whether that is actual payment information or something “in place of” it. Petitioner admits this when discussing claims 39-72, stating that Gomez “describes how a user may manually choose which of the actual credit/debit cards to use at the moment of a transaction” but “does not explicitly disclose how the selected actual credit/debit card payment information is communicated to the merchant and EPIC authorization server during a transaction.” Pet., 53-54. All indications from Gomez suggest that in “‘Manual’ mode,” the *actual* payment information is transmitted in connection with the payment transaction (and nothing is “in place of” it). But regardless, Petitioner has failed to meet its burden on elements [1.j] and [29.h] and does not offer any reason why (or how) a POSITA would combine the Manual and Automatic mode disclosures from Gomez.

Second, for its challenge to claims 39-72, Petitioner fails to show that a POSITA would have sought to modify Gomez’s authentication cryptogram (alleged to be the claimed dynamically generated limited-use payment information in Petitioner’s proposed combination) to further include secret information associated with a selected payment information (relying on Law). Petitioner provides no reasoned basis that a POSITA would have sought to add additional information in the first place, let alone chosen the specific “secret information” demanded by the

claims. Indeed, Petitioner's argument is contradicted by Gomez (which discloses that its authentication cryptogram "virtually eliminates" fraud and already has the "other information" Petitioner's assertion is premised on) and amounts to nothing more than improper hindsight using the '634 Patent and its claims as a roadmap.

Third, applicable to all Challenged Claims across the three grounds, Petitioner fails to show that a POSITA would have modified Gomez with Amacker to receive a request for transaction payment via an NFC interface. Gomez discloses a payment card designed to work with a traditional payment infrastructure and transaction flow including a magnetic stripe whereby "[n]o changes in the payment system infrastructure need be made by either the point-of-sale merchant or the card issuer." EX1007, 2:40-41. Yet, Petitioner's proposed combination ignores all this and requires the exact changes Gomez teaches against. Petitioner reimagines Gomez's payment card as either a mobile device or super-charged payment card complete with touchscreen and other capabilities. But the mobile device would not work because Gomez envisions that the payment instrument would maintain magstripe swiping capabilities. And Petitioner's super-charged payment card is pulled from thin air; Amacker does not say anything about this (or any card for that matter), and does not provide any disclosure that might teach a POSITA how to build out the EPIC card in the way that Petitioner imagines. For example, Petitioner imagines that the new payment card would receive a transaction payment via an NFC interface.

Gomez says nothing about this (and regardless, such a change would require a change in the transaction flow at the merchant POS, which Gomez teaches against). Amacker also says nothing about this—not one thing. It is entirely made up with hindsight reconstruction by its expert.

Fourth, also applicable to all Challenged Claims across the three grounds, Petitioner fails to show that a POSITA would have modified Gomez with Casey to receive via the NFC interface or electronic device information reflecting a status of payment information—especially when Gomez teaches away from (and expressly discourages) the proposed modification requiring changes to the merchant POS.

Lastly, Petitioner fails to show a reasonable expectation of success for any of its proposed combinations. Petitioner’s argument for each Ground consists of a single conclusory sentence, citing to its expert, who simply parrots the Petition verbatim, without evidence or analysis. And regardless, the combinations proposed by Petitioner are incompatible and unworkable. This, too, is dispositive of all three grounds.

Accordingly, for these reasons, and those below, Patent Owner respectfully submits that Petitioner has failed to show a reasonable likelihood of success for any Challenged Claim. Institution should thus be denied.

II. THE '634 PATENT OVERVIEW

The '634 Patent generally relates to “electronic or smart payment devices and, more specifically, to more secure, smart multi-function smart tokenizing electronic payment devices and transaction processing thereof.” EX1001, 1:27-31. The disclosed method involves receiving a priming operation from an identified user and a request for a payment transaction at an electronic device. EX1001, 19:59-62. The electronic device then displays on a touch-screen display “information reflecting the payment request, and an image representing a selected issued payment account.” EX1001, 19:63-65. The electronic device then “dynamically generat[es] ... limited-use payment information ... based on a per-transaction sequential parameter originating from the electronic device.” EX1001, 19:66-20:31. The method further includes “using said limited-use payment information in connection with the payment transaction in place of issued payment information associated with said selected issued payment account.” EX1001, 20:32-35.

The “limited-use payment information,” which is used in place of issued payment information, is then transmitted from the electronic device via an NFC interface. EX1001, 20:36-43. The NFC interface receives status information reflecting a transaction processing status of the payment transaction, and the status information of the payment transaction is displayed on the device’s touch screen display. EX1001, 20:36-43.

The various cryptographic techniques of the '634 Patent drastically improve security vis-à-vis prior art while maintaining convenience and flexibility by allowing selection and use of different payment accounts.

III. PETITIONER'S ALLEGED PRIOR ART

Petitioner relies upon five references in its Grounds, but only *Gomez*, *Amacker*, *Casey*, and *Law* are relevant to Patent Owner showing in this POPR why Petitioner has failed to demonstrate a reasonable likelihood of success that any Challenged Claim is unpatentable. Patent Owner provides an overview of these references in this Section III. Patent Owner then explains in the following sections how Petitioner's Grounds using these references fail to demonstrate a reasonable likelihood of success that any Challenged Claim is obvious in view of Petitioner's proposed combinations.

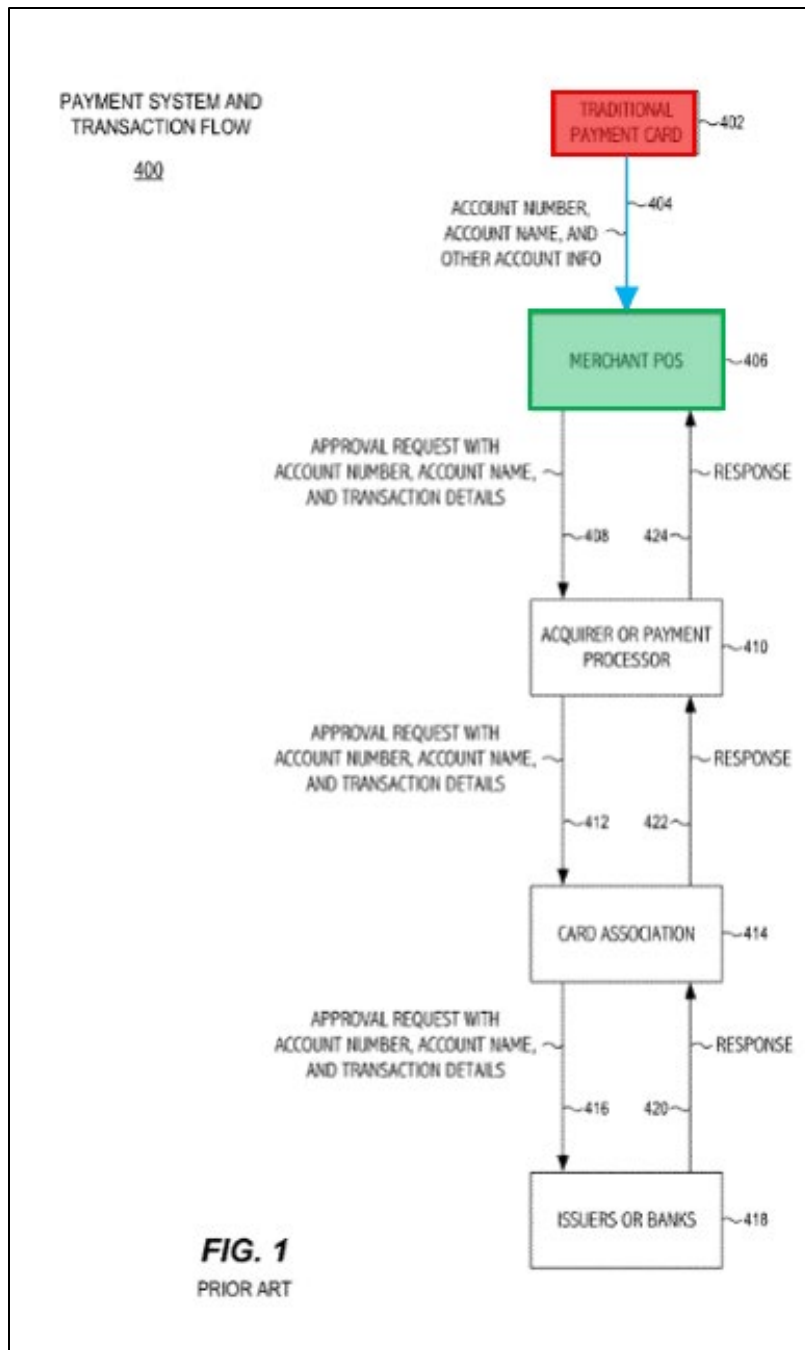
A. Gomez

U.S. Patent No. 9,600,808 ("Gomez") is directed to a more secure "payment card system" that can function within a pre-existing traditional payment system. *See, e.g.,* EX1007, Abstract, 1:58-2:44, 5:32-34, 5:67-6:2, FIGs. 1-2. Gomez, in its "Background," recognizes that "problems of fraud and identity theft that result from the use of payment cards, such as credit and debit cards, are increasing throughout the world." EX1007, 1:31-33. In its "Summary of Embodiments of the Invention," Gomez discloses that "[p]ayment card transaction theft and fraud may be greatly

reduced, if not virtually eliminated, in a payment card system that utilizes a secure authentication cryptogram which is generated uniquely for each attempted use of the payment card, and which expires within a short period of time thereafter.” EX1007, 1:58-63.

Gomez’s system is thus specifically designed to work within a pre-existing traditional payment system infrastructure, such that “[n]o *changes* in the payment system infrastructure need to be made by either the point-of-sale merchant or the card issuer.” EX1007, 2:40-41;¹ *see also, e.g.*, EX1007, 2:42-45, 5:32-34, 5:67-6:2. “For example,” Gomez explains that “such a payment card [the “EPIC” payment card discussed below] may use a programmable magnetic stripe or contactless technology to provide *total compatibility* with existing POS equipment.” EX1007, 2:43-45. Gomez then discloses the “*traditional* payment system” in Figure 1 (EX1007, 3:65-67), which it labels “Prior Art” (*i.e.*, the pre-existing payment infrastructure that Gomez is expressly designed to work within, without any changes to existing the merchant POS or card issuer):

¹ Unless noted, all coloring and emphasis has been added.



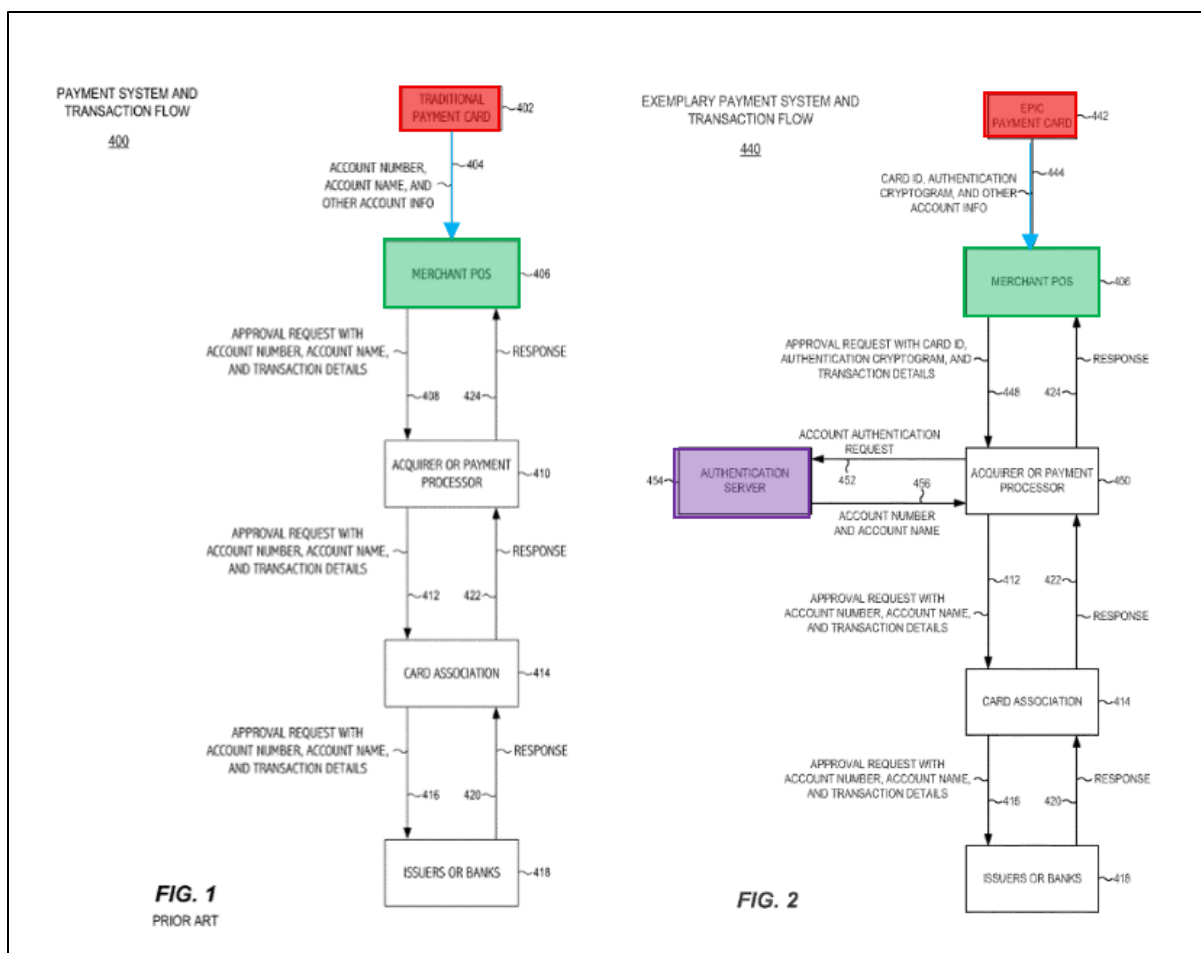
EX1007, FIG. 1. As can be seen in Figure 1, Gomez discloses a traditional “payment system and transaction flow,” with a “**traditional payment card 402**” that transmits to “**merchant POS 406**” “**account information 404**” “including the account number, security code, account name, expiration date.” EX1007, 3:65-4:7. Notably,

this is a ***one-way*** communication, *i.e.*, the payment card transmits information to the merchant POS, while the merchant POS does not send anything to the card. This is further evident by the bi-directional communication elsewhere in the Figure (request 408, response 424, etc.). *See also, e.g.*, EX1007, 4:7-63. That is, in the “traditional payment system” and “transaction flow” disclosed by Gomez (and depicted in Figure 1), a payment card sends information to the merchant POS, but not vice versa.

In its system, Gomez specifically makes no modifications to the merchant POS or card issuer systems to implement its “EPIC payment card.” Such EPIC payment card includes a rewritable magnetic stripe on which the static payment card identifying number may be encoded in the account number field and the authorization cryptogram may be encoded in the account name field. EX1007, 5:48-57, Abstract. It may additionally include NFC transmission. EX1007, 7:50-57, 14:3-11. The static number may be a “live” credit card number or may be “an identifying number for an EPIC account which is not itself a live payment card account, but to which are linked one or more live payment card accounts.” EX1007, 5:13-24. The EPIC payment card may be swiped through a POS terminal “just like a traditional magnetic stripe payment card.” EX1007, 5:29-34. Here too, Gomez teaches that “[s]ince all of the information is encoded using ***standard*** fields, a ***traditional POS*** terminal may be used ***without any required changes*** as a result of the encoding.” EX1007, 5:67-6:2; *see also* 14:3-11.

Account information communicated by swiping the card is communicated by the merchant to a payment processor or “acquirer,” which analyzes the account number to determine it corresponds to an EPIC account. EX1007, 5:64-6:12. The acquirer sends an account authentication request to an EPIC authentication server, which determines whether the cryptogram is valid and, if so, provides to the acquirer an actual payment card account number and account name to use for processing the transaction. EX1007, 6:23-27. The acquirer then uses that information to form an approval request to the card association corresponding to the actual payment card being used. EX1007, 6:39-47. The request is “essentially unchanged” from that used in a traditional payment system. EX1007, 3:65-67, 6:47-51.

Thus, as can be seen by comparing Figure 1 (a “traditional” “prior art” payment system) with Figure 2 (the system of Gomez), reproduced below, the transaction flow is largely the same (and the exact same as to **the merchant POS** and card issuer); the only change is that the payment processor communicates with an additional **authentication server** to obtain the account number and account name. EX1007, 3:18-23, 3:65-67, 5:48-50, FIGs. 1-2. That is, as noted above, and shown in the comparison of the two figures below, there are “[n]o changes in the payment system infrastructure need be made by either **the point-of-sale merchant** or the card issuer.” EX1007, 2:40-41; *see also, e.g.*, 2:42-45, 5:32-34, 5:67-6:2, 10:8-17, 14:3-11.



EX1001, FIGs. 1-2.

Gomez describes two alternative ways to configure and set up an EPIC account: “manual” and “automatic.” EX1007, 20:1-62. “The ‘Automatic’ option means that during a purchase transaction, the EPIC system defaults to the major credit card selection flow established by the customer.” EX1007, 20:15-18. “[I]f the currently selected credit card fails to authorize payment, the EPIC system will automatically move to the next available credit card for payment authorization of the same purchase transaction.” EX1007, 20:23-27. On the other hand, the “Manual” option provides a customer with the opportunity to manually select the actual credit

card that he/she wishes to use during a purchase transaction.” EX1007, 20:30-32. Per Gomez, “[t]his [manual] option is useful, for example, for a customer having a corporate credit card who needs the ability to choose which card to use at the moment of the transaction.” EX1007, 20:33-35. To enable the manual option, the EPIC card is fitted with a display and selection capability, such as a “membrane switch to scroll through available card accounts.” EX1007, 20:37-39. Importantly, Gomez does not say how a merchant, or, for that matter, the EPIC server, would know which underlying credit card is selected in manual mode. After all, the EPIC card itself does not have long-range communication capabilities (just NFC), and cannot communicate over a network. *See, e.g.*, EX1007, 21:5-12 (online payments only work when a vendor has “Epic Pay” on its website). The only possible explanation is that in Manual mode, the EPIC payment card transmits the real active credit card number.

B. Amacker

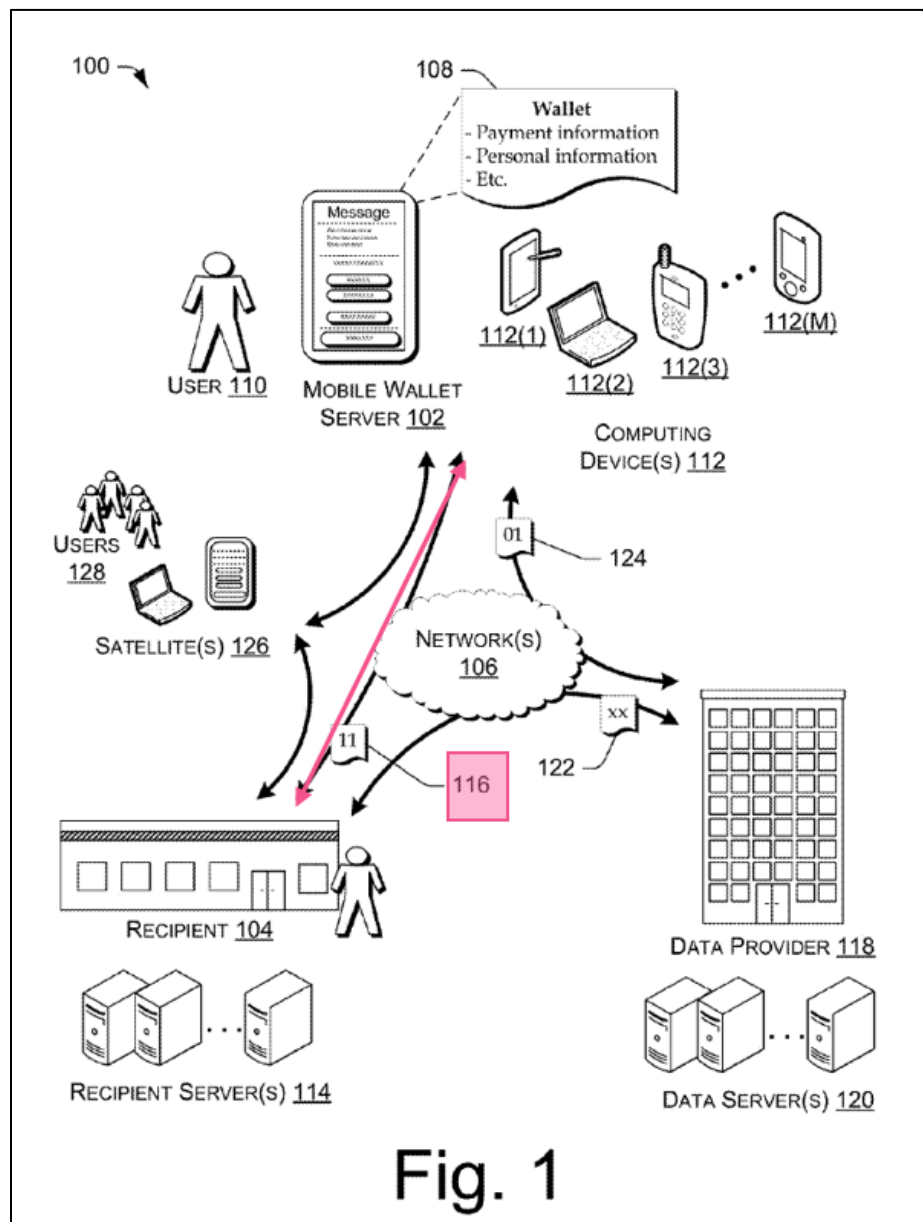
U.S. Patent No. 8,423,462 (“Amacker”) discloses a “mobile wallet server,” which refers to a user’s mobile device that hosts a “wallet server” (or simply “wallet”) storing personal information such as payment card information, usernames and passwords, contact information, etc. EX1008, 2:13-25, 3:4-13, 3:23-27. The wallet may enable the user to transmit data from the wallet to trusted recipients. EX1008, 3:13-15.

To transmit information to a recipient, the user provides an identifier (e.g., a telephone number or IP address) that enables the recipient to connect to the mobile wallet server. EX1008, 2:37-40, 6:49-53. The recipient then transmits a request for information to the mobile wallet server, which the user may choose to accept or reject. EX1008, 2:40-46, 6:52-61. If approved by the user, the mobile wallet server may transmit the requested information to the recipient. EX1008, 2:46-49.

Amacker teaches that its system enables a user to “complete a complicated transaction ... by transmitting payment and personal information ... while avoiding timely manual entry of the information and while reducing dissemination of the personal information to additional storage locations (e.g., an entity server used to store personal account information).” EX1008, 2:49-57.

As shown in Figure 1, below, Amacker discloses bi-directional communication between the “MWS 102” and the “recipient server(s) 114” which servers “may host a POS (point of sale) transaction system.” EX1008, 3:58-4:6. Amacker explains that “[u]sing the MWS 102, the user 110 may transmit personal information from the wallet 108 to the recipient server(s) 114[,] [f]or example, the recipient server(s) 114 may exchange **data 116** via the network 106,” where “[**t**]he **data 116** may include a request transmitted *from* the recipient server(s) 114 *to* the MWS 102 via the network 106.” EX1008, 3:62-4:1. Then “[a] response may be returned to the recipient server(s) from the MWS in the form of an approval that

includes associated personal information from the wallet 108,” or [i]n the alternative, the user 110 may optionally reject the request from the recipient server(s) 114 and not disperse personal information from the wallet 108.” EX1008, 4:1-6.



EX1008, FIG. 1.

C. Casey

U.S. Patent No. 8,255,323 (“Casey”) is directed to “mobile wallet server” where a user initiates a purchase of an item from a retailer by communicating the person’s mobile device identifier (*e.g.*, a telephone number, an IP address, an alias, etc.). EX1006, 2:36-58. The retailer then transmits a request to the person’s mobile device using the identifier, which in turn presents response options to the person. The person may respond to the request by interacting with the mobile wallet server (*e.g.*, select “accept” or “reject” button, etc.) using a user interface of an application that is triggered (executed) upon receipt of the request from the entity. EX1006, 2:36-58. Upon a selection of “accept,” the mobile wallet server transmits the requested information (*e.g.*, personal/payment information, etc.) to the retailer to complete a pending process. In this way, the person may complete a payment transaction, such as a purchase and delivery setup of a home appliance, by transmitting payment and personal information (*e.g.*, address, contact information, etc.) to the retailer via a real-time mobile wallet server while avoiding timely manual entry of the information and while reducing dissemination of the personal information to additional storage locations (*e.g.*, an entity server used to store personal account information). EX1006, 2:36-58.

D. Law

U.S. Patent App. Publication No. 2015/0134540 (“Law”) is directed to a method for facilitating contactless payment using cloud-based wallet containing payment credentials (*e.g.*, Visa, Mastercard, American Express) using a near field communication (NFC)-capable device and payment gateway servers. EX1032, Abstract. A virtual card is generated based on an existing payment card, referred to as a funding card, and the virtual card is associated with the funding card on a payment gateway server. EX1032, Abstract. When a payment is initiated, the virtual card data is sent through the NFC system from a point of sale terminal. EX1032, Abstract. This information is sent to the payment gateway server, which retrieves the funding card to make the payment. EX1032, Abstract. The funding card, not the virtual card, is then used to transfer the money to make the payment. EX1032, Abstract.

IV. LEVEL OF ORDINARY SKILL IN THE ART

For purposes of this Preliminary Response, Patent Owner does not dispute Petitioner’s definition of a person of ordinary skill in the art at the time of the invention of the ’634 Patent (a “POSITA”).

V. ARGUMENT

A. Arguments Relevant to Claims 1-38: Gomez Does Not Teach Limited-Use Payment Information for Use “in Place of” Issued Payment Information As Required by Claims 1-38

For Grounds 1A, 1B, and 1C challenging claims 1-38, the mixed-and-matched embodiments in Gomez that Petitioner rely upon (and Petitioner’s proposed combinations as a whole) fail to teach or render obvious using limited-use payment information “in place of” card issuer payment information, as required in elements [1.j] and [29.h] in independent claims 1 and 29. Elements [1.j] and [29.h] recite:

- Element [1.j]: “using said limited-use payment information in connection with the payment transaction *in place of* issued payment information associated with said selected issued payment account”
- Element [29.h]: “wherein the electronic device is operable to transmit a combination of said dynamically generated limited-use payment information and said static device-specific user account information to an NFC recipient via, said NFC interface for use in connection with payment transaction *in place of* information associated with said selected issued payment account”

For this requirement, Petitioner relies on Gomez alone. Pet. 25, 43. Petitioner argues that the “authentication cryptogram” of Gomez is used “in place of the card issuer supplied payment information (the ‘actual credit card account number’

disclosed by Gomez) ... associated with the selected actual credit card account ... because the authentication cryptogram is combined with the EPIC static payment card identifying number, which are together provided to the merchant rather than the issuer supplied payment information.” Pet., 25, 43. Petitioner’s challenge to claims 1-38 mix and match the “manual” and “automatic” embodiments” in Gomez, which leads to multiple failures.

1. Petitioner’s Theory Relies on Gomez’s “Manual” Embodiment, But This Embodiment Requires Use of the Actual (Real) Payment Card Information, as Petitioner Effectively Admits in its Petition

Petitioner’s theory is premised on Gomez’s “manual” selection embodiment whereby the actual credit card number must be used throughout the transaction (including initially transmitting it from the EPIC payment card to the merchant POS at the beginning of the payment transaction). For example, for element [1.g] (“displaying, on the touch-screen display, information reflecting the payment request, and an image representing a selected issued payment account”) Petitioner asserts:

Gomez further explains that its device includes “a display and a selection capability” to allow the user “to manually select the actual credit card that he/she wishes to use during a purchase transaction.” [EX1007], 20:30-59, 21:5-20, FIG. 9; EX1003, ¶111. The customer can “select the card they wish to use on their next transaction” by choosing from a list of

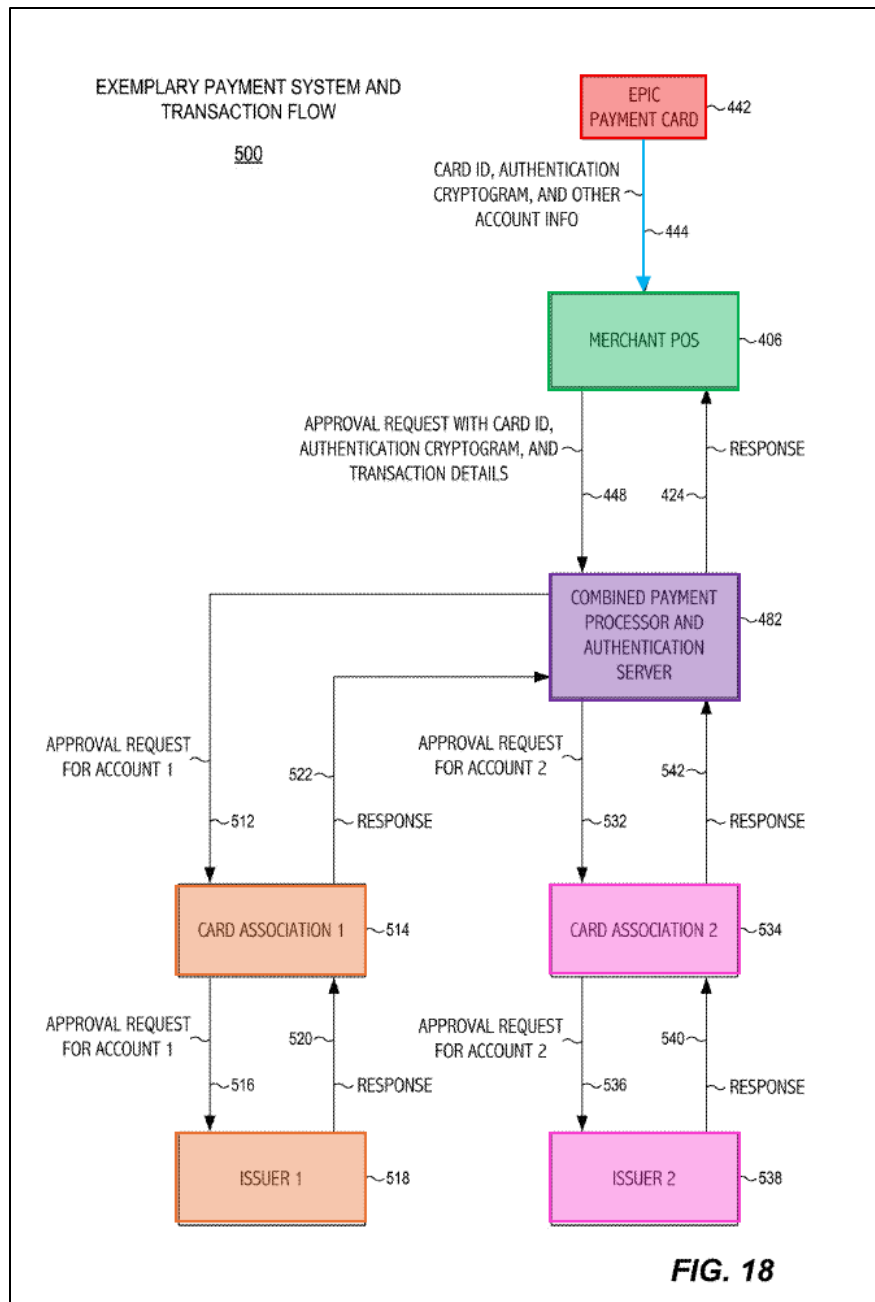
cards that includes “description name (or nickname) and card logo.” EX1007, 20:43-59.

Pet., 21-22, 41-42 (referring back to [1.g] for [29.e]); *see also* Pet., 13 (asserting motivation based on “manual[]” selection), 25 ([1.j] referencing [1.g]). In other words, Petitioner’s obviousness assertion for claims 1-38 is premised on the initial use of the “manual” selection embodiment to select a particular issued payment account during a particular transaction. This “manual” embodiment of Gomez is fundamentally different from the “automatic” embodiment in terms of how the underlying account information is selected, communicated, and used for payment.

Automatic Mode. In the “Automatic” embodiment, a user pre-selects their account priority through the EPIC system (*e.g.*, “online to link one or more actual payment card accounts with the EPIC account, including the preferred order that the authentication server should select the linked accounts to use for a given transaction”). EX1007, 20:1-6; *see also* EX1007, 20:7-29. That way, “during a purchase transaction, the EPIC system defaults to the major credit card selection flow established by the customer.” EX1007, 20:16-18. More specifically, and with reference to Figure 18 below, in such “automatic” process, **account information 444** (including the EPIC card account number) is communicated from **EPIC payment card 442** to **merchant POS 406**, which then transmits the approval request 448 to **acquirer 482**. EX1007, 18:43-49; *see also* EX1007, 5:65-6:6.

Acquirer 482 “analyzes the account number conveyed in the inbound approval request 448 to determine the appropriate card association or entity to next process the transaction approval request” by recognizing the EPIC card account number and “determin[ing] a first payment card account number (and corresponding actual account name) which is linked to the EPIC account.” EX1007, 18:50-59.

The request is then sent to **first card association 514** and then to **first issuer 518** for approval or denial. EX1007, 18:60-19:2. If approved, the transaction is processed using the first card; if denied, then an approval request automatically goes to the next priority card already linked to the account (**second card association 534** and **second issuer 538**), and so forth, until a card is approved or all cards are denied. EX1007, 19:4-34, 20:15-37. This process only works because the user pre-selected the “‘Automatic’ option mean[ing] that during a purchase transaction, the EPIC system defaults to the major credit card selection flow established by the customer” in advance (*e.g.*, “online” before the user is at a retailer). EX1007, 20:1-37.



EX1007, FIG. 18.

Manual Mode. Importantly, the Manual embodiment is different. In Manual mode, a user has the ability to select a payment account on-the-fly, right from the EPIC payment card itself “at the moment of the transaction.” EX1007, 20:30-42.

Specifically, the user can select the payment account from a display and a selection capability, such as a membrane switch. EX1007, 20:30-42. “This option is useful, for example, for a customer having a corporate credit card who needs the ability to choose which card to use at the moment of the transaction.” EX1007, 20:32-35. However, with this “manual” embodiment, Gomez is silent on how the merchant POS, the Authorization Server, or the EPIC system knows which payment account to use in the transaction.

As Petitioner itself admits elsewhere in its Petition:

Gomez also describes how a user may manually choose which of the actual credit/debit cards to use at the moment of a transaction. However, Gomez ***does not explicitly disclose how the selected actual credit/debit card payment information is communicated to the merchant*** and EPIC authentication server during a transaction.

Pet., 53-54 (citations omitted).

However, if the EPIC card account number (not the actual “live” credit card number) was transmitted by the payment card in connection with this “manual” selection process, there is no way the EPIC system would know which card the user selected “at the moment of the transaction.” Petitioner effectively admits this. *See* Pet., 53-54. Thus, the only possible explanation is that in Gomez the real account information is transmitted from the EPIC payment card to the merchant POS system

during Manual mode operation. This is buttressed by Gomez’s disclosure elsewhere, for example, that “[t]he payment card number [used in the transaction] may represent a ‘live’ credit card number or other payment card account number....” EX1007, 5:19-20; *see also, e.g.*, EX1007, 2:19-21 (“The static payment card identifying number may represent a live (i.e., ‘actual’) credit card number or other payment card (e.g., debit card) account number”).

As such, because the display and selection for element [1.g] relied upon by Petitioner occur only in Gomez’s “Manual” mode, Gomez does not disclose element [1.j] under Petitioner’s theory because this element requires “using said limited-use payment information in connection with the payment transaction *in place of* issued payment information associated with said selected issued payment account” (and similarly elements [29.e]/[29.h]). Alternatively and at the very least, given Gomez’s lack of “explicit disclosure” according to Petitioner, Petitioner cannot meet its burden on elements [1.j] and [29.h] as it concerns the Manual mode embodiment. *See also* Section V.A.2, below.

Petitioner seems to recognize this because it does not rely on the Manual mode disclosure in connection with elements [1.j] and [29.h]. Instead, Petitioner flips to the “Automatic” mode disclosure, pointing to the portions of Gomez that are only operable when a user pre-selects a priority for the linked underlying credit cards. Pet., 25, 43. Petitioner’s mixing and matching of embodiments is fatal to its

challenge to claims 1-38. *See, e.g., Samsung Elecs. Co. Ltd. v. Mojo Mobility Inc.*, IPR2023-01100, Paper 11, 18-19 (PTAB Feb. 12, 2024) (denying institution where combination “appears unworkable and mixes incompatible features of the two different coil arrangements without sufficient explanation to justify their combination”); *PayPal, Inc. v. IOENGINE, LLC*, IPR2019-00930, Paper 16, 34 (PTAB Oct. 29, 2019) (denying institution where Petitioner “improperly mixes and matches two discrete embodiments”); *AT&T Servs. Inc. v. Innovative Sonic Ltd.*, IPR2024-01143, Paper 15, 33 (PTAB Feb. 11, 2025) (denying institution and finding Petitioner’s “conflicting arguments inconsistent and thus not persuasive”).

Petitioner does not give a reason why (or explain how) a POSITA would combine these different options (nor even address that these are separate embodiments with a separate transaction flow at all). Importantly, the specification treats them as alternatives. A user either implements Manual mode or Automatic mode at any given time. EX1007, 20:1-63. If a user is in Automatic mode, there is no reason to display or select anything on or from a touch screen, as required by elements [1.g] and [29.e]. Nor does Gomez disclose doing so in the Automatic Mode (such display and selection happens only in the Manual mode, EX1007, 20:30-35). If a user is in Manual mode, there is no “explicit disclosure” in Gomez, as Petitioner acknowledges (Pet., 53-54) about what gets communicated to the merchant during the transaction. All signs are that it is the *real* credit card number that must

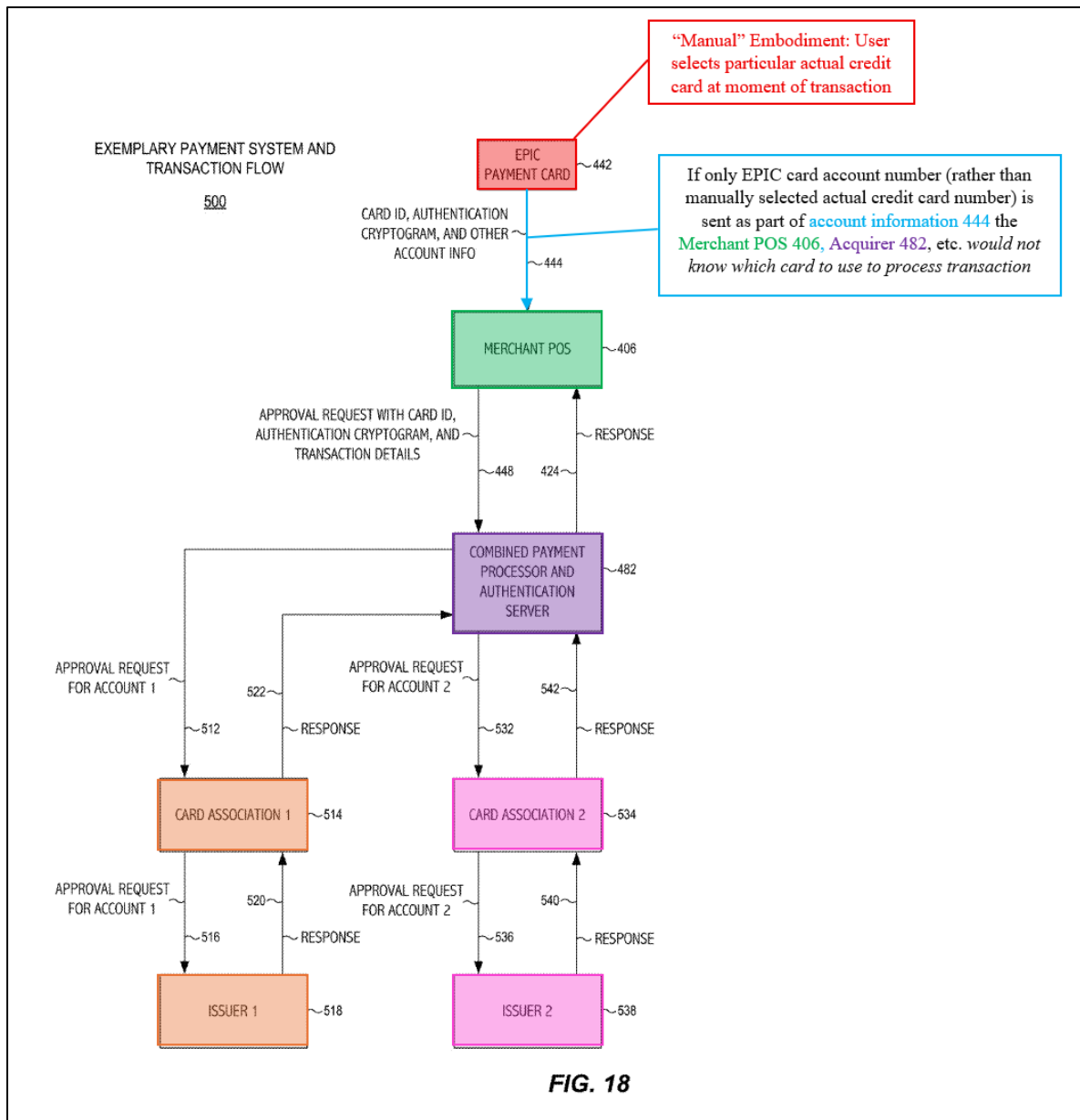
transmitted from the EPIC payment card to the merchant POS in Gomez’s Manual mode, which fails to meet element [1.j] and [29.h].

2. If Gomez Does Not Teach How the Selected Credit Card Number is Used Throughout the “Manual” Process, Petitioner’s Proposed Combination is Inoperative, Unworkable, and Unexplained

Even if Petitioner is correct that Gomez is not “explicit”² in how the “manual” selection process “at the moment of the transaction” occurs, Petitioner’s theory would still necessarily fail. In this scenario, Petitioner provides no argument or evidence as to how its proposed combinations would involve both (i) selecting the particular credit card to use at the time of the transaction (as alleged for elements [1.g] and [29.e]) and (ii) transmitting the EPIC card account number and authentication cryptogram “in place of” the actual credit card number (as alleged for elements [1.j] and [29.h]).

² As discussed in Section V.A.1, above, for its challenge to claims 39-72, Petitioner asserts that “Gomez does not explicitly disclose how the selected actual credit/debit card payment information is communicated to the merchant and EPIC authentication service during a transaction,” which would lead a POSITA to seek out additional disclosure (Law) to fill the alleged gap. Pet., 53-54. This is an admitted “gap,” meaning there is *no* disclosure for Petitioner’s challenge to claims 1-38 (which rely on Gomez-Amacker-Casey) as to how this process would actually work.

In such a scenario, Petitioner’s proposed combination would not function because the EPIC system would have no way of knowing which credit card was selected for use. Indeed, Petitioner’s challenge to claims 1-38 includes ***no argument or evidence*** as to how the process would actually work. For example, if the user selected—“at the moment of the transaction”—the “actual credit card that he/she wishes to use during a purchase transaction” (*see* Pet., 21-22; EX1007, 20:30-35), but then only “the payment card/device transmits the EPIC static payment card identifying number and the dynamically-generated authentication cryptogram to the POS terminal,” (Pet., 25), the actual credit card number selected would never be transmitted and thus ***not*** known to any other part of the system. This can be seen in reference to Figure 18 of Gomez, below. If a user selects a particular “actual credit card” using **EPIC payment card 442** “during a transaction at the moment of the transaction” (as Petitioner’s [1.g]/[29.e] theory is premised on) but the **EPIC payment card 442** transmits only the EPIC card number (along with the authentication cryptogram) as part of **account information 444** to **merchant POS 406** then the actual credit card selected would never be known and the transaction could ***not*** proceed. The same is true in the other embodiments and figures in Gomez (all of which necessitate that the card number would be transmitted to the merchant POS, as in, *e.g.*, Figures 2, 3, 16, and 17).



EX1007, FIG. 18 (red “Manual...” and blue “If only...” text boxes added for reference).

Thus, to the extent that it is determined that Gomez does not teach how the selected actual credit card is transmitted in the “manual” embodiment (as Petitioner alleges regarding claims 39-72), Petitioner’s proposed combinations for claims 1-

38—starting with the “manual” selection embodiment for elements [1.g] and [29.e] and then switching to the “automatic” embodiment for elements [1.j] and [29.h]—would be inoperative, unworkable, and unexplained. Petitioner has thus failed to meet its burden to show how the proposed combination would meet all claim limitations under this scenario as well. *See, e.g., AT&T Servs.*, IPR2024-01143, Paper 15 at 33; *Samsung Elecs.*, IPR2023-01100, Paper 11 at 18-19; *PayPal*, IPR2019-00930, Paper 16 at 34.

B. Arguments Relevant to Claims 39-72: A POSITA Would Not Have Modified Gomez’s Authentication Cryptogram to Further Include Secret Information Associated with a Selected Payment Information

For Ground 1B challenging to claims 39-72, a POSITA would not have sought to modify Gomez’s authentication cryptogram (alleged to be dynamically generated limited-use payment information in Petitioner’s proposed combination) to further include secret information associated with a selected payment information (alleged to be found in Law) as required by elements [39.f.iv] and [56.f.iv]:

- Element [39.f.iv]: “dynamically generate a limited-use payment information based on a per-transaction sequential parameter originating from the electronic device, *and secret information associated with a selected issued payment account*”
- Element [56.f.iv]: “dynamically generate a limited-use payment information based on a per-transaction sequential parameter originating

from the electronic device, *and the secret information associated with the user-selectable issued payment account*”

Petitioner begins by conceding that Gomez alone does not disclose these claimed elements, asserting instead that it would have been obvious to combine Gomez and Law by adding to Gomez’s authentication cryptogram (which Petitioner asserts discloses the first part “*dynamically generate a limited-use payment information based on a per-transaction sequential parameter originating from the electronic device*”) Law’s disclosure to meet the second claimed part (“*dynamically generate a limited-use payment information based on and secret information associated with a selected issued payment account*”). Pet., 66. Petitioner argues that “a POSITA would have further modified the combined device such that the authentication cryptogram is generated not only based on a seed value and temporal signal value, but also based on secret information associated with the actual credit/debit card selected for the transaction.” Pet., 55.

Petitioner’s motivation to do so is based on its assertion (at page 56 of the Petition) that:

Gomez explains that “a message that is ‘based upon’ certain information (e.g., a seed value[]) is not necessarily based only upon the certain information, but may also be based upon other information.” [EX1007], 22:15-18. Thus, a POSITA would have been motivated to consider other implementations in which

additional information is used to form the message used to generate the authentication cryptogram. EX1003, ¶168.

Petitioner then identifies that Law discloses using “discretionary data” (also “dynamic data”) which Petitioner asserts includes “secret information” and so a POSITA would have simply put all of this together and added it to Gomez. Pet., 56-57. Not so.

Petitioner’s argument is premised on the generic “other information” reference in Gomez (*i.e.*, that “other information” beyond the specific “seed value” can be used as stated at 22:15-18 of Gomez). Importantly, however, Gomez already expressly identifies “other information” to be used, for example: “The authentication cryptogram is generated ***based upon a seed value*** stored within the payment card, ***and further based upon a temporal signal value*** which changes for each attempted use of the payment card, and may be alpha-numerically encoded to provide a far greater number of ‘bits’ of information than could be provided, for example, using a decimal number encoding, for a given number of characters or symbols.” EX1007, 1:64-2:4. There is simply no reason to look beyond Gomez’s teachings, when Gomez already identifies the “other information” to be used with the seed value. Nor does Petitioner identify any reason. This is especially so because Gomez discloses that using its “authentication cryptogram” based on both seed value and temporal signal

value results in “[p]ayment card transaction theft and fraud [being] *greatly reduced, if not virtually eliminated.*” EX1007, 1:57-62.

So why would a POSITA look to anything else given the disclosure in Gomez to already use “other information” (a “temporal signal value”) along with a “seed value”? Or, if for some reason there was a concern these two pieces weren’t enough, why wouldn’t a POSITA then implement other optional aspects of Gomez? For example, why wouldn’t a POSITA require that the cryptogram is “preferably valid for only a short lifetime after the date/time” such that even if “left behind,” it cannot be reused and is thus worthless in the event of theft as it can only be used for a “single transaction” (EX1007, 5:25-42)? Or instead of looking outside of Gomez, implement Gomez’s optional “alpha-numeric[] encod[ing]” of “the authentication cryptogram [which] renders it extremely difficult for an unauthorized party, without knowledge of the seed value corresponding to the payment card, to generate a new authentication cryptogram in attempt to authorize a future fraudulent transaction” (EX1007, 5:43-47)? Or use the optional PIN or biometrics in Gomez (EX1007, 5:7-18)? The answer to all of this: there is no reason to look outside Gomez, nor does Petitioner’s reliance on the stray reference in Gomez to “other information” beyond a “seed value” provide any motivation when Gomez’s full disclosure is considered (and certainly not for the specific proposed combination).

But if a POSITA did look elsewhere, why would a POSITA have both looked specifically to “secret information” *and* added it to Gomez’s authentication cryptogram with both a seed value and temporal signal value? Why wouldn’t a POSITA have replaced Gomez with Law’s “discretionary data” (also “dynamic data”) instead of adding it, as such data itself is already secure per Law (*e.g.*, Law’s “dynamic data” serves to “securely authenticate the payment credential” (EX1032, [0069]))? Or why wouldn’t a POSITA have used Law’s dynamic data (or information it is based on) as the “other information” with Gomez’s “seed value” instead of adding it all together with Gomez’s “temporal signal value” (the “other information” from Gomez)? Or used some other combination? Or used Amacker (as Petitioner mentions) but which does not practice the claims? And why would all this happen when Law teaches it is desirable to reduce the amount of processing power, computing time, and storage needed (EX1007, [0071]-[0072], [0140], [0243]), all of which would increase in the proposed combination despite each separate system already being secure (and all of which Petitioner ignores)? Here too, the answer is there would be no reason to look outside of Gomez or to add Law in the way Petitioner proposes.

Neither Petitioner, nor its expert—who largely parrots the Petition (EX1003, ¶168)—answer any of these questions or provide any reasoned explanation (let alone evidence) as to why a POSITA would have looked to Law to add the specific claimed

“secret information” to Gomez’s cryptogram. Petitioner and its expert effectively just assert that because these existed separately that a POSITA would have sought to combine them in the same way as the claims. That does not provide any reasoned motivation supported by actual evidence. *See, e.g., InTouch Techs., Inc. v. VGo Commc’ns, Inc.*, 751 F.3d 1327, 1351 (Fed. Cir. 2014) (“A reason for combining disparate prior art references is a critical component of an obviousness analysis; ‘this analysis should be made explicit.’”) (quoting *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007)); *see also, e.g., Precision Cancer Techs. Inc. v. Oncoustics Inc.*, IPR2025-00242, Paper 7, 15-16 (PTAB June 3, 2025) (“[W]e give [the expert’s] *ipse dixit* testimony little weight” because “[the expert’s] testimony lacks both technical reasoning and evidentiary support; it simply mirrors the statement in Petition.”); *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9, 15-17 (PTAB Aug. 24, 2022) (precedential) (finding that conclusory testimony that “does not cite to any additional supporting evidence or provide any technical reasoning to support [that testimony] ... is entitled to little weight”); *AT&T Servs.*, IPR2024-01143, Paper 15 at 28, 38.

The only logical conclusion is that Petitioner and its expert engaged in improper hindsight, using the ’634 Patent as a roadmap to seek to achieve the particular claimed requirements. *See, e.g., Ecolochem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1372 (Fed. Cir. 2000) (“In this case, the district court used the

[challenged] patent as a blueprint, with the Houghton process as the main structural diagram, and looked to other prior art for the elements present in the patent but missing from the Houghton process. The district court opinion does not discuss any specific evidence of motivation to combine, but only makes conclusory statements. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence.”) (cleaned up); *see also TQ Delta, LLC v. Cisco Sys., Inc.*, 942 F.3d 1352, 1361 (Fed. Cir. 2019) (“We repeatedly expressed concerns that crediting such testimony risks allowing the challenger to use the challenged patent as a roadmap to reconstruct the claimed invention using disparate elements from the prior art - i.e., the impermissible *ex post* reasoning and hindsight bias that *KSR* warned against.”); *InTouch*, 751 F.3d at 1351 (rejecting as insufficient conclusory expert testimony where “[i]t appears that [the expert] relied on the ’357 patent itself as her roadmap for putting what she referred to as pieces of a ‘jigsaw puzzle’ together.”); *Vicor Corp. v. Delta Elecs., Inc.*, IPR2024-00706, Paper 13, 20 (PTAB Oct. 2, 2024) (“An issue that is apparent is whether there is motivation, rather than improper hindsight bias, in combining the references to meet the claim limitations; that is, has rationale been established to modify Vinciarelli-218 by adding specific pins of Zeng-014 and forming the resulting configuration. There has to be evidence of ‘glue’ to make this *specific* combination, and not just the use of the claim as the roadmap for making the combination of prior art.”).

C. Arguments Relevant to Claims 1-72: Petitioner Fails to Meet Its Burden as to Any Challenged Claim

For Ground 1A, Petitioner relies on a combination of Gomez, Amacker, and Casey to challenge claims 1-2, 7-16, 27-34, and 36-38 (of which claims 1 and 29 are independent claims). For Ground 1B, Petitioner relies on a combination of Gomez, Amacker, Casey, and Law to challenge claims 3-6, 17-26, 35, and 39-72 (of which claims 39 and 56 are independent claims). For Ground 1C, Petitioner relies on a combination of Gomez, Amacker, Casey, and Chin to challenge dependent claim 13.

For the reasons discussed below, the Petition fails to establish a reasonable likelihood of success as to any of the Challenged Claims. In doing so, Patent Owner focuses below on three exemplary failures, each of which is dispositive.

1. A POSITA Would Not Have Sought to Modify Gomez with Amacker to Receive a Payment Request Using the NFC Interface; Gomez Teaches Away From and Expressly Discourages the Proposed Combination

Petitioner's proposed combinations in Grounds 1A, 1B, and 1C do not teach or render obvious a device with elements [1.f], [29.c], [39.c], or [56.c] (*i.e.*, all challenged claims and alone dispositive of the three grounds). These elements recite:

- Element [1.f] “*receiving a payment request for the payment transaction at said electronic device*”

- Element [29.c]: “a near field communications (NFC) interface coupled to the processor and operable to *receive a payment request associated with the payment transaction*”
- Element [39.c]: “a near field communications (NFC) interface coupled to the processor and operable to *receive a payment request associated with the payment transaction*”
- Element [56.c]: “a near field communications (NFC) interface coupled to the processor and operable to *receive a payment request associated with the payment transaction*”

For this requirement, Petitioner relies on the teachings of Amacker and Gomez to argue that “[i]n the Gomez-Amacker-Casey combination, the retailer can ‘transmit a request to the person’s mobile device’ including requests for ‘payment information’ for completing ‘in person’ transactions,” Pet., 21 (citing to Amacker) and “[t]he communication occurs via the NFC interface,” Pet., 21 (citing to Gomez and Amacker); *see also* Pet., 41 ([29.c] referring back to [1.f]), 64 ([39.c] referring back to [29.c]), 77 ([56.c] referring back to [29.c]).

However, Petitioner’s argument ignores Gomez’s express teachings to ***not*** make the contemplated changes (and, in fact, not make ***any*** changes to the “traditional” system at the point-of-sale or card issuer). It also fails to appreciate the

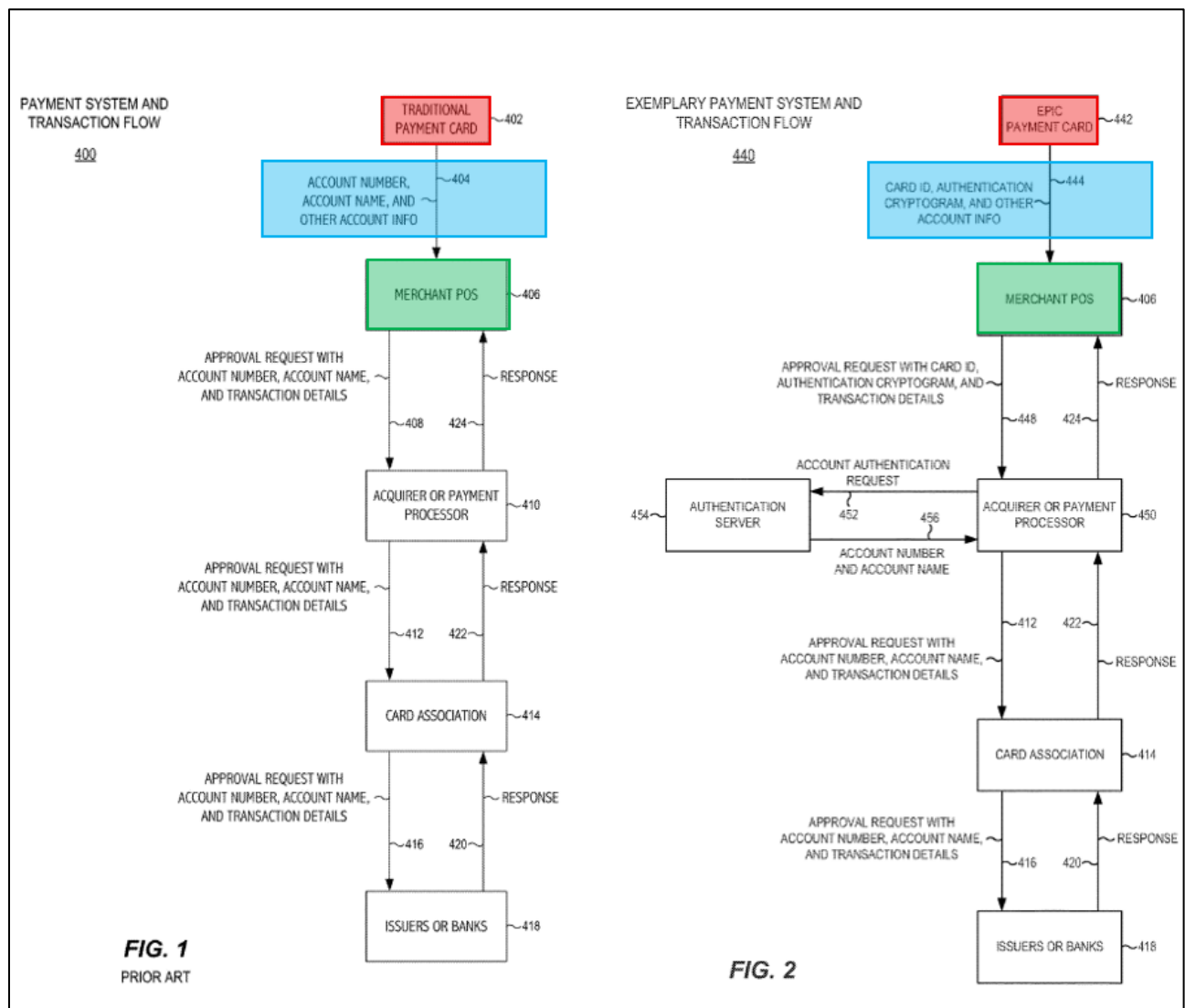
fundamental differences between Gomez and Amacker. These missteps lead to several fundamental problems with Petitioner’s proposed combinations.

First, as discussed above in Section III.A, the entire point of Gomez is that its “EPIC” payment card may be presented like a traditional credit card using a magnetic stripe and used in a “traditional” payment system without needing any changes in infrastructure by the point-of-sale merchant or the card issuer. Indeed, Gomez’s system is specifically designed to work within a pre-existing traditional payment system infrastructure, such that “*[n]o changes* in the payment system infrastructure need to be made by either the point-of-sale merchant or the card issuer.” EX1007, 2:40-41; *see also, e.g.*, 3:65-4:7 (“FIG. 1 is a block diagram of a ***traditional*** payment system 400 and transaction flow related to purchase transaction approval at a retail merchant. A ***traditional*** payment card 402, such as a credit card or debit card, includes ***a magnetic stripe*** on which is permanently encoded certain account information.... This account information (labeled 404) is communicated to merchant 406, such as by swiping the payment card 402 through a magnetic card reader on a point-of-sale (POS) terminal (not shown).”); 5:32-34 (“The card holder then ***swipes*** the payment card through a POS terminal at the merchant just like a ***traditional*** magnetic stripe payment card.”), 5:67-6:2 (“Since all the information is encoded using standard fields, a ***traditional*** POS terminal may be used ***without any required changes*** as a result of the encoding.”), 9:65-10:32 (“communicat[ing] using ***traditional*** POS terminal

equipment and using *traditional* credit card field limitations” including magnetic swipe), 14:3-11 (“*traditional* payment card system”).

This is further evident in the comparison of Figures 1 and 2 of Gomez. Figure 1, below left, “is a block diagram depicting a traditional payment system 400 and transaction flow related to purchase transaction approval at a retail merchant,” whereby “[a] **traditional payment card 402**, such as a credit card or debit card, includes a magnetic stripe on which is permanently encoded certain account information,” which “**account information (labeled 404)** is communicated to a **merchant 406**, such as by swiping the **payment card 402** through a magnetic card reader on a point-of-sale (POS) terminal (not shown).” EX1007, 3:65-4:7. Figure 2, below right, then retains all of these traditional features, including that “**EPIC payment card 442** includes a re-writable magnetic stripe” with “**account information 444**.” EX1007, 5:48-64. As in the traditional system (depicted in Figure 1), in Figure 2, “**account information 444** is communicated to the **merchant 406** by swiping the **payment card 442** through a magnetic card reader on a point-of-sale (POS) terminal (not shown).” EX1007, 5:64-67. As Gomez explains in reference to Figure 2 implementing its EPIC payment card, “[s]ince all the information is encoded using standard fields, a traditional POS terminal may be used *without any required changes* as a result of the encoding.” EX1007, 5:67-6:2. “The **merchant 406** combines the **account information 444** with transaction information, *as before*, [*i.e.*,

as in the “traditional” system in Figure 1] and forms an approval request 448 which is communicated to an acquirer 450.” EX1007, 6:3-6. Notably, **merchant POS 406** requiring the magnetic card swipe of a payment card is designed to be the *same* in both the “traditional” “prior art” system in Figure 1 and the EPIC payment card system in Figure 2.



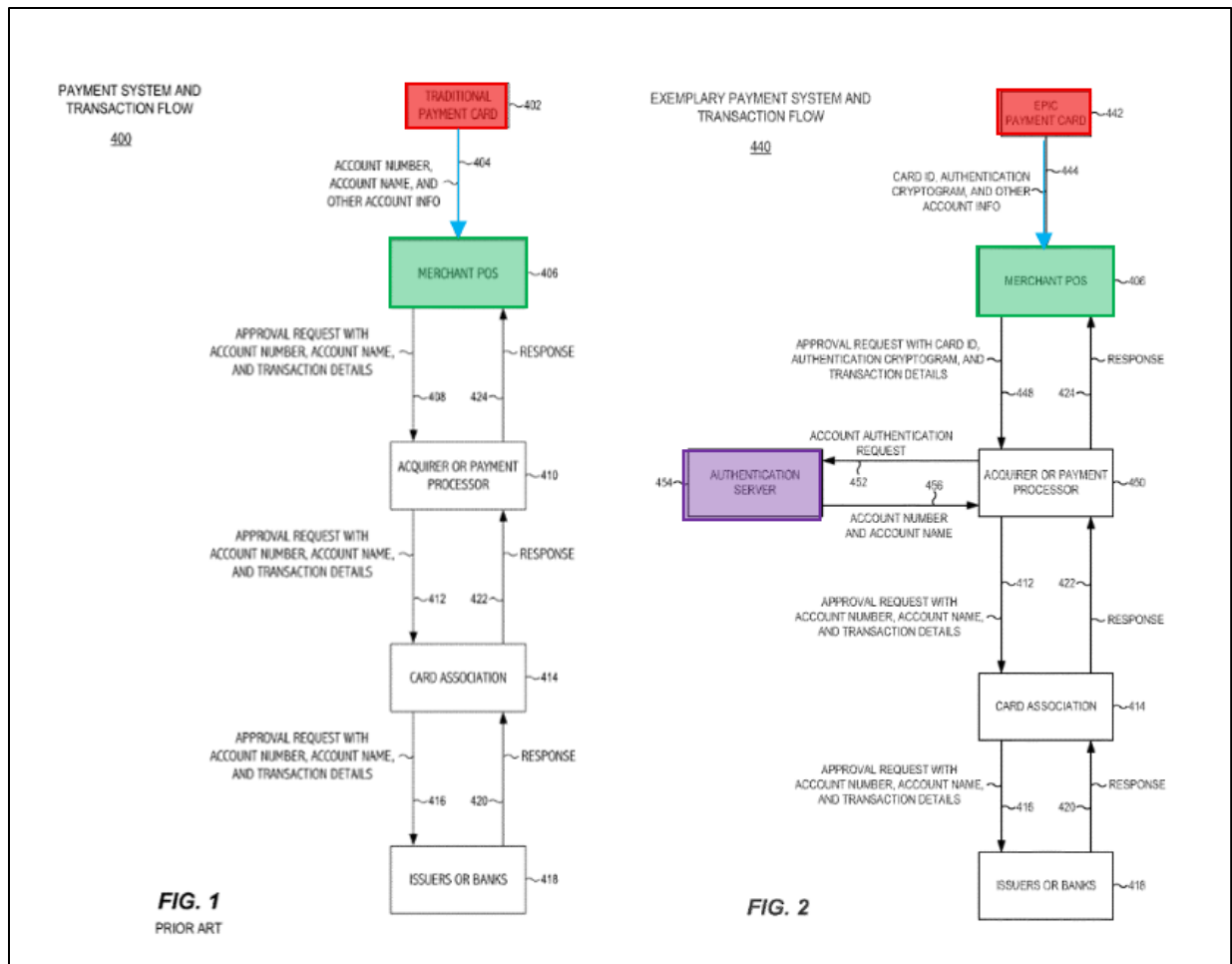
EX1007, FIGs. 1-2.

Yet, in Petitioner’s reimagined combination adding Amacker to Gomez would lose the traditional aspects of its EPIC payment card—including the magnetic stripe capability necessary to remain compatible with “traditional” merchant POS systems disclosed in Gomez—by turning Gomez’s EPIC payment card into “a mobile device (such as a smartphone) having a touchscreen display, as taught by Amacker.” Pet., 11. There is no reasoned basis (and Petitioner provides none) for why a POSITA would seek to make such a combination, when it would require losing key compatibility with traditional systems.

Moreover, while Gomez mentions a mobile phone, it does so only in the context of a user setting up an EPIC account on the backend, not in connection with using the mobile phone as the EPIC payment card or otherwise that the mobile phone has any applicability to making a payment transaction at a traditional merchant POS. *See* EX1007, 20:44-59. If it was, in fact, obvious to turn the EPIC card into a mobile phone (it is not for the reasons explained in this section), then logically Gomez would have mentioned that in its disclosure. That Gomez does not only serves to further confirm a POSITA would not have done so, as it would require losing the core features necessary to traditional payment transactions at a merchant POS.

Second, as discussed above in this Section V.C.1 and in Section III.A, Gomez specifically explains that the “traditional” system to which “no changes” at the **merchant POS** or the card issuer is depicted in its Figure 1, below. *See also*

EX1007, 3:65-4:7. Also as discussed in Section III.A above, to ensure that its system remains completely compatible with traditional systems without change, Gomez discloses only unilateral communication from the payment card *to* the traditional POS system as part of the traditional “transaction flow.” *See also* EX1007, 3:65-4:7. It never discloses any communication from the POS system to the card. This is evident, for example, in the comparison of the “prior art” “traditional” system disclosed in Figure 1 with the EPIC card system in Figure 2, where Gomez discloses that **the information** is sent from **the payment card** to **the merchant POS**, but the merchant POS does not send anything to the payment card. EX1007, 3:65-4:7, 5:13-34; *see also* Section III.A, above. This one-way communication is further confirmed by the bi-directional communication elsewhere (*e.g.*, approval requests and responses between the merchant POS and acquirer, the acquirer and card associations, etc.). *See* EX1007, FIGs. 1-2 (below).

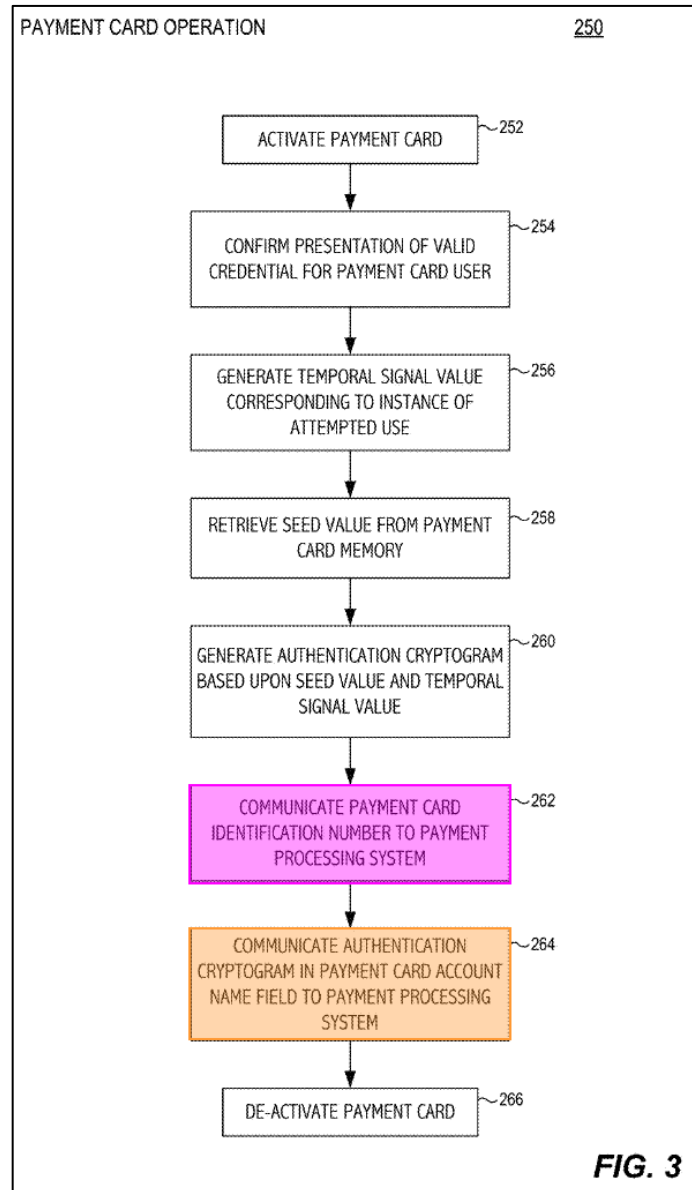


EX1007, FIGs. 1-2; *see also, e.g.*, FIGs. 16, 17, 18 (same one-way information flow from card to merchant POS).

Gomez confirms that in this traditional infrastructure for card swipe (and additionally contactless transactions) the same one-way communication flow occurs: transmitting the information from the card *to* the merchant POS as in traditional payment systems that Gomez is designed to work with, again “[n]o *changes* in the payment system infrastructure need be made by either the **point-of-sale merchant** or the card issuer.” EX1007, 2:40-41. For example, in addition to its

Figures 1 and 2 disclosure, as well as elsewhere (*e.g.*, Figures 16-18), Gomez discloses that the same one-way communication is used for both for magnetic swipe and NFC in Figure 3. Gomez discloses that “[a]t **step 262** [in Figure 3, below] the card communicates the payment card identifying number *to* the payment system.” EX1007, 7:49-50; *see also, e.g.*, 2:42-45 (Gomez’s “payment card may use a programmable magnetic stripe or contactless technology to provide total compatibility with existing POS equipment”). Per Gomez, “[i]n some embodiments this [*i.e.*, sending the payment card number to the **merchant POS**] may be accomplished using a magnetic stripe on the payment card,” and “[i]n some embodiments this [again, sending the payment card number to the **merchant POS**] may also be accomplished using near field communication (NFC)” EX1007, 7:50-54. Similarly, “[a]t **step 264** the card communicates the authentication cryptogram in a payment card account name field *to* the payment processing system” (*i.e.*, to the **merchant POS**). EX1007, 7:57-59; *see also* 14:3-11 (“Transactions are secured by an authentication cryptogram that is generated for each attempted use, and is preferably communicated in the account name field (*i.e.*, of a magnetic stripe on the card, in a NFC transmission, using an online web page, etc.) instead of the cardholder’s actual name. The authentication cryptogram is also preferably encoded using an alpha-numeric code, which may be communicated in the account name field of a traditional payment card system since that field allows alphabetic characters.”).

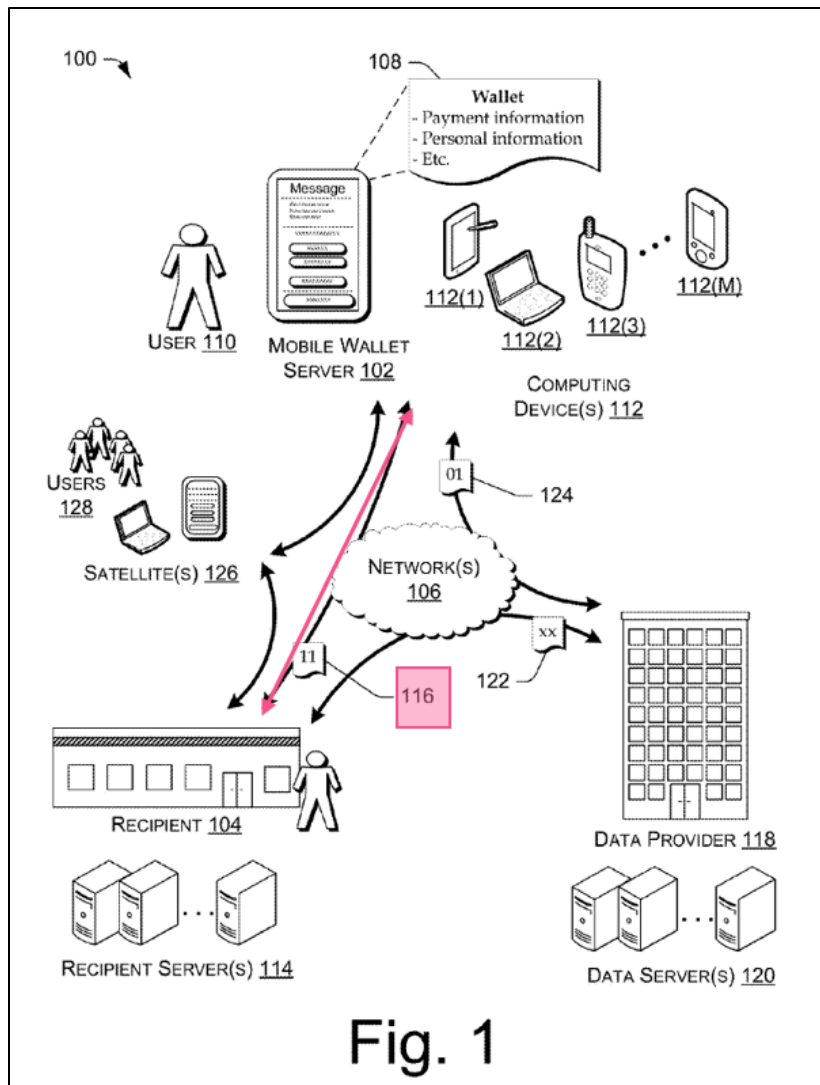
That is, Gomez *exclusively* discloses one-way communication, as in traditional systems (both card-swipe and contactless) and corresponding “transaction flow” that Gomez was expressly designed to work with, with “no changes.”



EX1007, FIG. 3; *see also* FIG. 4 (step 286).

Moreover, Gomez teaches that, as in a traditional transaction flow, payment information is communicated from the payment card to the merchant POS at the start of the process, once “the card is activated by the card user” and the user confirms a valid credential (*e.g.*, at steps 252 and 254 in Figure 3 above). EX1007, 6:65-7:16; *see also* 3:65-4:7, 5:48-6:2, 8:11-24, FIGs. 1-3.

In contrast, Amacker teaches a process in which the recipient initiates contact with the mobile wallet server to request information, which request the user can accept or reject. *See* Section III.B, above; *see also, e.g.*, EX1008, 2:40-49, 3:62-4:6, 6:52-61. This can be seen in Figure 1 of Amacker, below, where there is ***bi-directional*** communication (**data 116**) between the recipient server 114 and MWS 102 with an entirely different transaction flow. As Amacker explains, “the recipient server(s) 114 may exchange data 116 via the network 106,” where “[t]he **data 116** may include a request transmitted ***from*** the recipient server(s) 114 ***to*** the MWS 102 via the network 106.” EX1008, 3:62-4:1. Then “[a] response may be returned to the recipient server(s) from the MWS in the form of an approval that includes associated personal information from the wallet 108,” or [i]n the alternative, the user 110 may optionally reject the request from the recipient server(s) 114 and not disperse personal information from the wallet 108.” EX1008, 4:1-6.



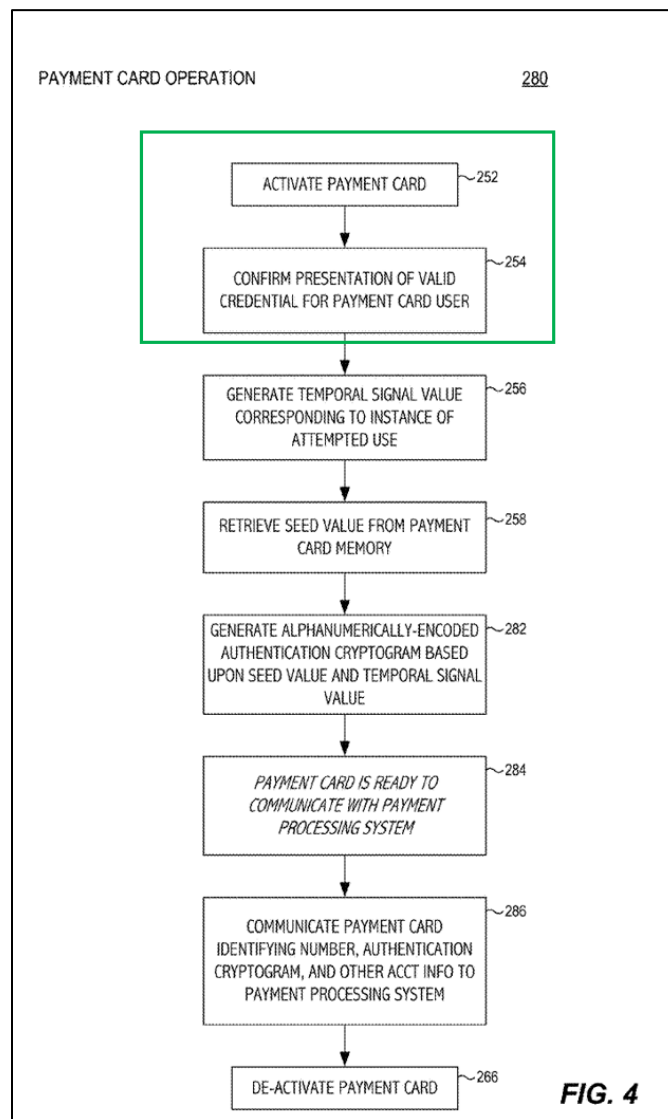
EX1008, FIG. 1.

Amacker does not attempt to be compatible with traditional point-of-sale infrastructure and transaction flow (as Gomez discloses is a necessity) and does not teach presenting the mobile wallet server at a point-of-sale terminal. Thus, applying Amacker's teachings to Gomez would require changes to payment system infrastructure, thereby defeating a primary benefit and necessary part of Gomez's system: "*[n]o changes in the payment system infrastructure* need be made by either

the point-of-sale merchant or the card issuer.” EX1007, 2:40-41. Indeed, Gomez’s statements that “*no changes*” are needed, and its EPIC payment card is designed “to provide total compatibility with existing POS equipment,” etc. (*see, e.g.*, EX1007, 2:40-45, 5:32-34, 5:67-6:2, 10:8-17, 14:3-11, FIGs. 1-2)—teachings Petitioner does not address—teach away from and expressly discourage a POSITA from looking to references that would require such changes to be made in modifying Gomez’s system (such as Amacker). *See, e.g., DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.”) (quotation omitted); *Chemours Co. FC, LLC v. Daikin Indus., Ltd.*, 4 F.4th 1370, 1376-77 (Fed. Cir. 2021) (“This is particularly true in light of the fact that the Kaulbach reference appears to teach away from broadening molecular weight distribution and the known methods for increasing melt flow rate. Specifically, Kaulbach includes numerous examples of processing techniques that are typically used to increase melt flow rate, which Kaulbach cautions should *not* be used due to the risk of obtaining a broader molecular weight distribution.”) (emphasis in original).

Third, Amacker’s request for information would be, at best, redundant to Gomez’s system, wherein a user activates the EPIC card, the user is verified, and the

card provides information to the POS terminal *without* a need for a request from the terminal (as discussed above and evident by, for example, Gomez’s Figure 3). Gomez, for example, requires the user to take two initial affirmative steps: (1) “**At step 252** the card is activated by the user” and (2) “**At step 254** the card confirms the presentation of a valid credential for the payment card user,” such a PIN number or fingerprint sensor. EX1007, 6:65-7:16.



EX1007, FIG. 4.

Further, since the user already purposefully activated the EPIC payment card, verified a valid credential, and purposefully presented it to the POS terminal (*e.g.*, by swiping it through a magnetic card reader or presenting it in a contactless transaction), thereby signifying the user's desire to perform the transaction, it would be redundant (as well as add an unnecessary step that would only serve to complicate Gomez's system) to then require the user to accept or deny a request for information. But regardless, not only would it be redundant, here too it would require changes to the system, which again, Gomez teaches away from (and expressly discourages). *See, e.g.*, EX1007, 2:40-45, 5:32-34, 5:67-6:2, 10:8-17, 14:3-11, FIGs. 1-2; Section III.A, above.

Fourth, also underscoring the incompatibility of the two references, Amacker seeks to “reduc[e] dissemination of the personal information to additional storage locations (*e.g.*, an entity server used to store personal account information)” (EX1008, 2:49-57) by storing information on the user's mobile wallet server. Gomez, however, teaches that a customer “enter[s] all credit cards information” into the EPIC system, so the EPIC authentication server can retrieve and provide “the actual payment card account number and account name to use for processing the transaction.” EX1007, 6:23-27, 20:1-13, FIG. 2. Thus, Gomez teaches exactly the approach that Amacker seeks to avoid: disseminating the personal credit card information *to* storage on a

third-party system (*i.e.*, the EPIC system). This too cuts against Petitioner’s proposed combination.

Fifth, Petitioner argues that a POSITA would have modified Gomez based on Amacker because “[t]his modification would have improved the resulting system by allowing the user to better ensure that they are approving a payment transaction and transmitting payment information to a correct merchant terminal, which can prevent fraudulent transmittal of payment information to an incorrect terminal” and that “[s]uch a modification would also allow the user to bring the NFC-enabled electronic device in proximity to an NFC terminal, receive a payment request, and visually review transaction data before approving (or denying) the transaction.” Pet., 13. In support of its conclusory arguments, Petitioner cites only to its expert, who does no more than repeat the same argument, essentially verbatim. EX1003 ¶¶96. Such argument (and the corresponding lack of evidence) should be afforded little weight. *See e.g., Precision Cancer*, IPR2025-00242, Paper 7 at 15-16 (“[W]e give [the expert’s] *ipse dixit* testimony little weight” because “[the expert’s] testimony lacks both technical reasoning and evidentiary support; it simply mirrors the statement in Petition.”); *Xerox*, IPR2022-00624, Paper 9 at 15-17 (finding that conclusory testimony that “does not cite to any additional supporting evidence or provide any technical reasoning to support [that testimony] ... is entitled to little weight”); *AT&T Servs.*, IPR2024-01143, Paper 15 at 28, 38.

Regardless, as just explained, the system of Gomez already includes features whereby the user confirms intent to enter a transaction. Petitioner's argument that the modification would provide "better" or "extra" assurance only serves to again confirm the redundancy of Amacker's teachings were they to be applied to Gomez. Any incremental benefit, if any at all, from this asserted "extra" assurance would be outweighed by the additional steps imposed on the user, increasing the time and effort required to complete each transaction, especially compared to the traditional card swipe system or contactless payment in Gomez. For example, in the combination of Amacker with Gomez, a user—having already decided to make a transaction and ready to pay the merchant—may have to further (1) activate the card, (2) provide an identifier so the recipient can connect to the device and transmit a request for transaction payment, and then (3) approve or deny the request on the device. A POSITA would not have made such a combination, which is cumbersome and repetitive for the user, particularly where Gomez states that its teachings, by themselves, can "greatly reduce[], if not virtually eliminate[]" theft and fraud. EX1007, 1:58-63.

Accordingly, Petitioner has failed to show a reasonable likelihood of success for any challenged claim.

2. A POSITA Would Not Have Sought to Modify Gomez with Casey to Receive “via the NFC interface” or “Electronic Device” Information Reflecting a Status of said Payment Transaction; Gomez Teaches Away From and Expressly Discourages the Proposed Combination

Petitioner’s proposed combinations do not teach or render obvious receiving “via the NFC interface” information reflecting a status of said payment transaction, as recited in elements [1.l], [39.g], and [56.g] or similarly via the “electronic device” in element [29.i] (*i.e.*, each of the independent claims of the ’634 Patent):

- Element [1.l]: “*responsive to the transmitting the limited-use payment information, receiving via the NFC interface information reflecting a status of said payment transaction*”
- Element [29.i]: “*wherein the electronic device is operable, subsequent to transmission of said combination, to receive a status information reflecting a status of said payment transaction*”
- Element [39.g]: “*wherein the NFC interface is operable, in response to transmitting said payment information combination, to receive status information reflecting a transaction processing status of said payment transaction*”
- Element [56.g]: “*wherein the NFC interface is operable, in response to transmitting said payment information combination, to receive status*

information reflecting a transaction processing status of said payment transaction”

The claimed “NFC interface” refers to the “near field communications (NFC) interface coupled to the processor” of the claimed “electronic device,” as required in [1.d] (and similar in [39.c] and [56.c]). Element [29.i] is also similar, except it specifies the electronic device. That is, the claimed elements above require that receiving of the status information occurs at the electronic device (*i.e.*, the same device that, *e.g.*, dynamically generates and transfers limited-used payment information to an NFC recipient).

For element [1.1], Petitioner relies on the disclosure in Casey to assert the Gomez-Amacker-Casey combination discloses this limitation. Pet., 26. For elements [29.i], [39.g], and [56.g], Petitioner presents no independent arguments and refers back to its discussion for element [1.1]. Pet., 43, 67, 77. (For element [39.g] (at page 67), Petitioner references [4.c], which itself just states “*Supra* Element [1.1].” Pet., 60. For element [59.g] (at page 77), Petitioner references [39.g], which likewise traces to [1.1] without any additional analysis or argument.).

In other words, the issue for all claims as presented in the Petitioner rises and falls with Petitioner’s argument for element [1.1]. However, Petitioner’s argument fails because a POSITA would ***not*** have looked to Casey because Gomez teaches away from (and expressly discourages) making any changes “in the payment system

infrastructure ... by either the point-of-sale merchant or the card issuer.” *See, e.g.*, EX1007, 2:40-41 (“No changes in the payment system infrastructure need be made by either the point-of-sale merchant or the card issuer.”); *see also* EX1007, 2:42-45, 5:32-34, 5:67-6:2, 10:8-17, 14:3-11, FIGs. 1-2; Sections III.A, V.C.1, above (explaining same). That is, looking to Casey would require the exact changes that Gomez teaches against. Nor does Petitioner explain how its proposed combination would work with the traditional merchant POS of Gomez’s system, which as discussed above, was only designed to receive information from a payment card not send anything to the card.

As explained above: (i) the entire point of Gomez is that its “EPIC” payment card may be presented like a traditional credit card and used in a traditional payment system without needing any changes in infrastructure by the point-of-sale merchant or the card issuer and (ii) as in Gomez and traditional systems, that means that information is communicated from the card *to* the merchant POS; but no information is transmitted back to the card.

Despite Gomez *never* disclosing that any information is communicated from the merchant POS to the payment card (whether in a swipe or contactless transaction context), Petitioner wrongly asserts that “[l]ike Gomez and Amacker, Casey also describes sending and receiving information at the mobile device through an NFC interface.” Pet., 26. But as explained above, there is no “receiving information”

disclosed in Gomez, nor does Petitioner point to any. To the contrary, Gomez discloses only sending, and for good reason: again, Gomez is specifically designed to work within traditional systems without any changes to the merchant POS or card issuer. Accordingly, Gomez likewise teaches away from (and expressly discourages) the proposed combination for these elements (*see, e.g., DePuy*, 567 F.3d at 1327; *Chemour*, 4 F.4th at 1376-77), which too is dispositive of all three grounds.

3. Petitioner’s Conclusory Assertions of Reasonable Expectation of Success Fail

Petitioner’s reasonable-expectation-of-success assertions rest exclusively on a single sentence parroted—without evidence or analysis—by its expert.

In Ground 1A, Petitioner’s entire assertion that a POSITA would have a reasonable expectation of success consists of a one-sentence conclusion, citing to its expert, who repeats the same thing, verbatim with the same underlining, without any evidence or explanation:

Petition (Paper 1) at 17 (underline in original)	Expert Declaration (EX1003 ¶101) (underline in original)
<u>Finally</u> , a POSITA would have recognized that applying the teachings of Amacker and Casey to Gomez is merely the application of known techniques to a known system ready for improvement to yield predictable results and would have had a	<u>Finally</u> , a POSITA would have recognized that applying the teachings of Amacker and Casey to Gomez is merely the application of known techniques to a known system ready for improvement to yield predictable results and would have had a

reasonable expectation of success in making such a modification. EX1003, ¶101. <i>KSR Int’l. Co. v. Teleflex Inc.</i> , 550 U.S. 398, 416 (2007).	reasonable expectation of success in making such a modification.
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Ground 1B is the same. Petitioner’s entire assertion that a POSITA would have a reasonable expectation of success consists of effectively the same one-sentence conclusion, citing to its expert, who repeats the same thing, verbatim with the same underlining, without any evidence or explanation:

Petition (Paper 1) at 57 (underline in original)	Expert Declaration (EX1003 ¶169) (underline in original)
<u>Finally</u> , a POSITA would have recognized that applying the teachings of Law and Amacker to the Gomez-Amacker-Casey combination is merely the application of known techniques to a known system ready for improvement to yield predictable results and would have had a reasonable expectation of success in making such a modification. EX1003, ¶169. <i>KSR</i> , 550 U.S. at 416.	<u>Finally</u> , a POSITA would have recognized that applying the teachings of Law and Amacker to the Gomez-Amacker-Casey combination is merely the application of known techniques to a known system ready for improvement to yield predictable results and would have had a reasonable expectation of success in making such a modification.

The same is true for Ground 1C. Petitioner’s entire assertion that a POSITA would have a reasonable expectation of success consists of effectively the same one-

sentence conclusion, citing to its expert, who repeats the same thing, verbatim, without any evidence or explanation:³

Petition (Paper 1) at 57	Expert Declaration (EX1003 ¶257)
A POSITA would have recognized that applying the teachings of Chin to the Gomez-Amacker-Casey combination is merely the application of known techniques to a known system ready for improvement to yield predictable results and would have had a reasonable expectation of success in making such a modification. EX1003, ¶257. <i>KSR</i> , 550 U.S. at 416.	A POSITA would have recognized that applying the teachings of Chin to the Gomez-Amacker-Casey combination is merely the application of known techniques to a known system ready for improvement to yield predictable results and would have had a reasonable expectation of success in making such a modification.

These conclusory assertions—without any evidentiary support whatsoever—fail to meet Petitioner’s burden. *See, e.g., Solus Advanced Materials Co. Ltd. v. SK Nexilis Co., Ltd.*, IPR2024-01462, Paper 14 at 17-18 (PTAB Apr. 25, 2025) (“Petitioner’s contention that implementing Dobashi’s RSm values into Hanafusa’s

³ As Ground 1C challenges only a single dependent claim (dependent claim 13, which depends from claim 10, which depends from claim 8, which depends from claim 7, which depends from claim 1), this ground additionally fails for the same reasons as Ground 1A (challenging independent claim 1 along with dependent claims 7-10, and others).

electrolytic copper foil is the application of known techniques to a known structure to yield predictably results is similarly conclusory and lacking in persuasive explanation. *Such conclusory statements regarding the POSITA's alleged reasonable expectation of success are not sufficient* to support a finding of obviousness. Such assertions, lacking factual substantiation, are insufficient for evaluating reasonable expectation of success as part of an obviousness determination.”) (internal citation omitted); *see also, e.g., Intell. Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367-68 (Fed. Cir. 2016) (Petitioner bears the “burden to demonstrate *both* that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, *and* that the skilled artisan would have had a reasonable expectation of success in doing so.”) (cleaned up); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (“To satisfy its burden of proving obviousness, *a petitioner cannot employ mere conclusory statements*. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.”).

This alone demonstrates—as a matter of law—that Petitioner has failed to show (and cannot show) a reasonable expectation of success based on its assertions in the Petition. Moreover, the lack of a reasonable expectation of success is even

more apparent, given the incompatibility of the references, as explained in the above sections.

VI. CONCLUSION

For the reasons stated above, Petitioner has failed to show a reasonable likelihood of success that any Challenged Claim is unpatentable for any Ground.

Patent Owner respectfully submits that institution should be denied.

Dated: November 5, 2025

Respectfully submitted,

/Matthew G. Berkowitz/

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

mberkowitz@reichmanjorgensen.com

REICHMAN JORGENSEN

LEHMAN & FELDBERG LLP

Lead Counsel for Patent Owner

CERTIFICATE OF COMPLIANCE

I hereby certify that this paper complies with the type-volume limitation of 37 C.F.R. §42.24 (as determined by the Microsoft Word word-processing system used to prepare this paper) because it contains 11,322 words, excluding the parts of the paper exempted by 37 C.F.R. §42.24(a) but including any words added to figures.

By: /Matthew G. Berkowitz/
Matthew G. Berkowitz (Reg. No. 57,215)

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6, the undersigned certifies that on November 5, 2025 a copy of the foregoing document was served by email to counsel for Petitioner:

Naveen Modi (Reg. No. 46,224)
Daniel Zeilberger (Reg. No. 65,349)
Robert Laurenzi (Reg. No. 45,557)
Jason Mikus (Reg. No. 71,911)
Alexa Lowman (*pro hac vice* to be filed)
Maksim Mints (Reg. No. 78,507)
PH-Google-Cardware-IPR@paulhastings.com
naveenmodi@paulhastings.com
danielzeilberger@paulhastings.com
robertlaurenzi@paulhastings.com
jasonmikus@paulhastings.com
alexalowman@paulhastings.com
maksimmints@paulhastings.com

By: /Matthew G. Berkowitz/
Matthew G. Berkowitz (Reg. No. 57,215)