UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner

v.

FINTIV, INC.,

Patent Owner

Case No.: IPR2020-00019
U.S. Patent No. 8,843,125

Title: SYSTEM AND METHOD FOR MANAGING MOBILE WALLET AND ITS RELATED CREDENTIALS

PATENT OWNER'S PRELIMINARY RESPONSE

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES

Page(s)

Cases

Statutes

PATENT OWNER'S UDPATED EXHIBIT LIST

Exhibit No.	Description
2001	Declaration of John W. Downing in Support of Patent Owner's Request for Rehearing
2002	Email dated 11-20-19 from Travis Jensen to counsel for Fintiv re seeking leave to file Markman order
2003	Email dated 11-22-19 from Travis Jensen to the Board requesting a conference call
2004	Email dated 12-2-19 from Travis Jensen to John Downing re intending to rely on Section II.B.6 of the July 2019 Trial Practice Guide Update
2005	Email dated 12-3-19 from Travis Jensen to the Board confirming parties met and conferred
2006	July 2019 Trial Practice Guide
2007	Declaration of Dr. Michael I. Shamos, Ph.D.
2008	Second Amended Complaint for Patent Infringement, Dkt. 92, *Fintiv, Inc. v. Apple Inc.,* Civil Action No. 19-cv-01238-ADA
2009	Minute Entry setting trial date, Dkt. 82, *Fintiv, Inc. v. Apple Inc.,* Civil Action No. 19-cv-01238-ADA
2010	Apple's Invalidity Contentions Chart A-3 - Aiglstorfer Chart
2011	Fintiv's Preliminary Infringement Contentions Exhibit A
2012	The Microsoft Computer Dictionary (5th Ed., 2002)
2013	Mozido Adds Big Piece to Its Mobile-Pay Puzzle with CorFire Purchase, Dec. 18, 2014, available at https://www.paymentssource.com/news/mozido-adds-big-piece-to-its-mobile-pay-puzzle-with-corfire-purchase
2014	Apple Press Release, "Apple Pay Set to Transform Mobile Payments Starting October 20," October 16, 2014, available at: https://www.apple.com/newsroom/2014/10/16Apple-Pay-Set-to-Transform-Mobile-Payments-Starting-October-20/

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2015	Braithwaite, Tom et al., "Apple Wages War on the Wallet," September 15, 2014, available at: https://www.cnbc.com/2014/09/15/apple-wages-war-on-the-wallet.html
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2019	Lovejoy, Ben, "Apple Pay Revenue is Heading Toward a Multi-Billion Dollar Business," February 12, 2020, available at: https://9to5mac.com/2020/02/12/apple-pay-revenue/
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2021	Murphy, Mike, " Apple Pay is a Sleeper Hit," January 22, 2019, available at: https://qz.com/1799912/apple-pay-on-pace-to-account-for-10-percent-of-global-card-transactions/
2022	Resume of Michael Ian Shamos
2023	Agreed Scheduling Order, Dkt. 38, *Fintiv, Inc. v. Apple Inc.,* Civil Action No. 19-cv-01238-ADA

I. INTRODUCTION

Fintiv, Inc. ("Fintiv" or "Patent Owner") respectfully submits its Preliminary Response ("Response") in accordance with 35 U.S.C. § 313 and 37 C.F.R. § 42.107 in response to Apple Inc.'s ("Apple" or "Petitioner") Petition for *Inter Partes* Review ("IPR") (Paper 1) and supplemental IPR petition (Paper 7) that challenges Claims 11, 13-14, 16-18, and 20-25 of U.S. Patent No. 8,843,125. (Ex. 1001, "the '125 Patent".) This Response is timely under 37 C.F.R. § 42.107(b) because it was filed within three months of November 15, 2019, the Filing Date Accorded to Petition (Paper No. 3).

Initially, the Board should exercise its discretion and deny institution under 35 U.S.C. § 314(a) and 37 C.F.R. §42.108(a) to prevent duplicative proceedings in the PTAB and district court and to promote efficiency. Specifically, the district court trial is set for November 16, 2020, an estimated six months before the PTAB's deadline to issue a final written decision. Moreover, Petitioner has made identical invalidity arguments in the district court and in the IPR, and the district court has already issued a claim construction order. This is an inefficient use of the Board's time and resources and creates a second identical follow-on proceeding, which does not advance the Board's goal of efficiency.

The Board should also deny institution because each of the grounds advanced in the Petition is flawed. Petitioner's analysis of the prior art references simply gloss

over what is required in the limitation, and advances claim construction positions rejected by the district court. The IPR also improperly uses hindsight to piece references together based on the patent claims themselves. *Samsung Electronics Co., Ltd. v. Red Rock Analytics, LLC*, IPR2018-00557, Paper 18 (P.T.A.B. August 20, 2018) (finding it was impermissible to rely on the patent itself "as a roadmap for putting what amounts to pieces of a jigsaw puzzle together.")

Fintiv does not point out every deficiency of the Petition, but instead reserves the right to make additional arguments and provide additional evidentiary support if required later. Fintiv respectfully submits that the Petition should be denied in its entirety.

II. THE '125 PATENT

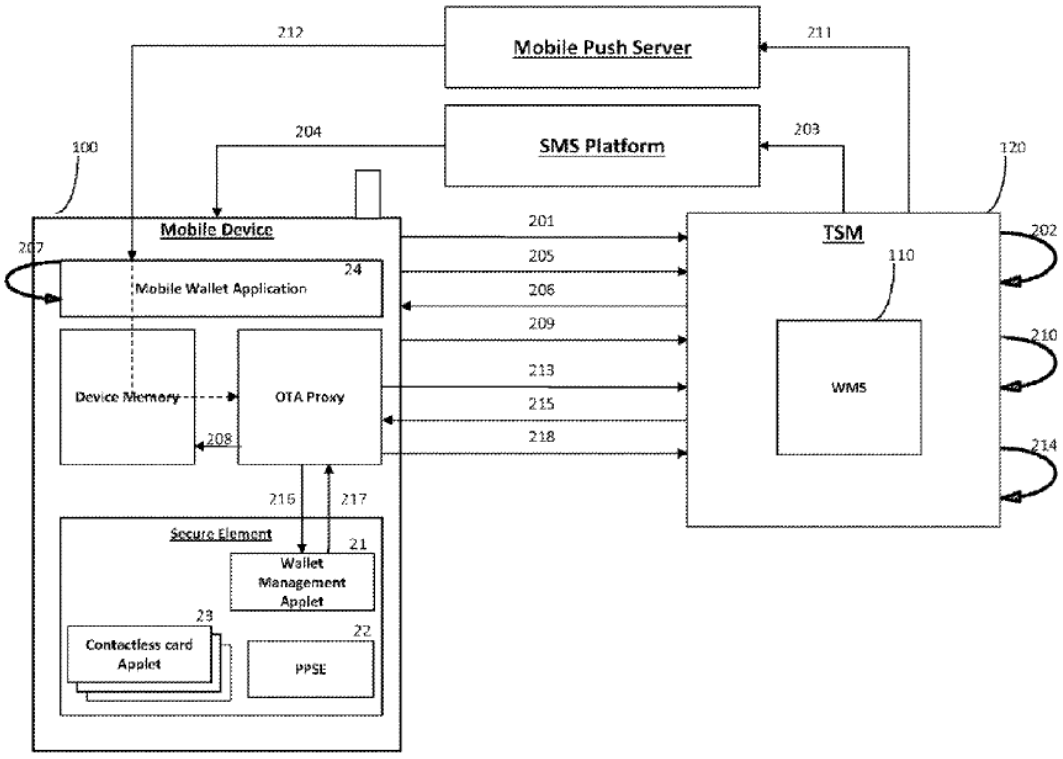
A. Brief Description of the '125 Patent Disclosure

The '125 Patent relates to virtual card management stored on mobile devices and discloses provisioning a contactless card in a mobile device with a mobile wallet application. The '125 patent, however, identifies a number of shortcomings in mobile wallet functionality. Mobile wallets lacked "an effective means to manage various payment applets residing within the mobile device." (Ex. 1001 at 1:63-67.) Although the prior art allowed users to select contactless payment virtual cards from contactless payment applets stored in the mobile device for use with point-of-sale ("POS") devices, management of the payment applets was less than ideal. For

example, users were limited to view contactless payment applets stored in the user's mobile device when interacting with a POS device and the user was unable to view details of the contactless payment applets even when making a payment with the POS device. (*Id.* at 2:6-18.) Industry standards at the time, Payment Procedure Secure Elements ("PPSE"), provided a very limited generic description to the user that included an application identification (ID) and label (*Id.* at 2:19-29) such that the user was unable to view any account specific information stored within the SE or manage the applications with or without the use of POS equipment. (*Id.*) Additionally, mobile commerce services were offered to users without regard to mobile device capabilities or mobile service providers actually utilized by the user. (*Id.* at 2:30-44.) Because service providers operated independently, individual applications were also updated separately, which dissuaded users from obtaining critical updates to particular applications. (*Id.* at 2:45-51.) The '125 patent also discloses a Trusted Service Manager System which is positioned to consolidate information from various service providers and to act as an integration point for all of the external parties which provided a more seamless and efficient operation of mobile services. (*Id.* at 5:36-46.) Thus, the '125 patent did not invent the idea of a mobile wallet or using a mobile wallet with NFC technology, but instead addresses numerous shortcomings of the technology as it existed at that time. (Ex. 2007, Declaration of Dr. Michael I. Shamos, Ph.D ("Shamos") at ¶ 40.)

Figure 2 shows an embodiment of a method to install the mobile wallet application on a mobile device.

Fig. 2. Install Wallet Application



In step 201, the mobile device (201) requests a new mobile wallet application from the TSM (120). (*Id.* at 5:55-56.) When installation is executed, a widget representing a virtual card (*e.g.* a virtual credit card) is provisioned to reside within the mobile wallet application 24. (*Id.* at 5:55-60; 5:66-6:4.) The user initiates the actual installation process by sending a request to the TSM in step 205 and the TSM transmits the requested mobile wallet application 24 for installation along with an accompanying over-the-air proxy program to allow OTA provisioning in step 206. (*Id.* at 6:31-41.) In step 208, the OTA proxy captures mobile device information,

which can be stored in device memory. (*Id.* at 6:52-60.) At step 209, the OTA proxy sends captured SE and mobile device information to the TSM, which may include a Widget Management System 110 ("WMS"). (*Id.* at 6:63-67.) The WMS 110, upon receipt of the information provided by the OTA proxy, creates a Mobile identification for the installed mobile wallet application in step 210. The WMS 110 then requests TSM to provision a wallet management applet ("WMA") via OTA proxy; the WMA may include a WMA container and one or more WMA applets and may manage the information stored in the WMA applets. (*Id.* at 7:4-11.) In step 211 and 212, the TSM sends a wake up message to the mobile push server to wake up the OTA proxy residing in the mobile device. (*Id.* at 7:51-54.) In step 213, the OTA proxy gathers mobile device and SE specific information and sends it to the TSM. (*Id.* at 7:58-65.) The TSM processes information received from the OTA Proxy in step 213 and converts the identifying information along with the request to provision WMA 21 container into Application Protocol Data Unit (APDU) commands in step 214 and sends them over to the OTA proxy in step 215. (*Id.* at 7:59-8:4.) In Step 216, the OTA proxy receives the APDU commands to install WMA container and relays them to the SE which processes the APDU commands to install the requested WMA container and its associated credentials and the SE responds back with results of each command request in step 217. (*Id.* at 8:5-14.) The OTA Proxy relays the result back to the TSM in step 218 and the TSM updates

its system with results. Once successfully installed, the user may provision specific contactless card applets and widget applications and WMA applet onto the mobile device. (*Id.* at 8:18-22.)

The mobile wallet application describes synchronization in Figure 5. (*Id.* at 8:29-35.) The '125 explains that when the user logs into the mobile wallet application, the mobile wallet application checks with the TSM system/WMS for any modifications to the wallet configuration since the last login. (*Id.* at 11:35-47.)

Dynamic filtering is disclosed in Figure 4 (*Id.* at 4:15-19; 10:9-11:4.) The user first logs into the mobile wallet application, which seeks to connect with the TSM system 120/WMS 110. (*Id.* at 10:15-17.) The request is relayed to the Rule Engine in TSM system which queries the user account for equipment information and based on this information, a filtered list of downloadable applications may be displayed to the mobile device. (*Id.* at 10:18-26.)

B. Prosecution History

During prosecution of the '125 application, the examiner rejected claims 1-25 under pre-AIA 35 U.S.C. 102(e) as being anticipated by Desai *et al*. (US 2014/0089185). (Ex. 1002, April 24, 2014 Office Action, at 72.) The applicant successfully argued that Desai merely discloses an OTA trusted service manager, "but was silent on capturing mobile device information by using the OTA proxy wherein the mobile device information comprises secure element information." (*Id.*,

July 24, 2014 Amendment at 97.) The applicant also argued that Desai was "silent in disclosing or teaching the feature of transmitting the mobile device information for registering the installed mobile wallet application" and was silent in disclosing and teaching "synchronizing the mobile wallet application with the TSM system." (*Id*. at 97-98.) A notice of allowance thereafter issued. (*Id*., August 6, 2014 Notice of Allowance at 108.)

III. LEVEL OF ORDINARY SKILL

A POSITA should have at least a degree in computer engineering, computer science, information systems, or a similar discipline, or equivalent work experience and, in addition have at least two years of experience with design and/or implementation of mobile financial applications in a client/server environment, including over-the-air provisioning of secure elements. (Shamos at ¶ 35.) Petitioner's proposal of a degree in computer engineering, computer science, information systems, or a similar discipline and have 3-4 years of experience with the design and/or implementation of mobile applications in a client/server environment (Ex. 1003, "Neuman," at ¶ 37) is not sufficient. (Shamos at ¶ 33.) The claims of the '125 patent are drawn to mobile wallet applications, secure elements, and communications with a Trusted Service manager. (*Id.* at ¶ 33) Petitioner's proposal for level of ordinary skill omits these. (*Id*.)

IV. CLAIM CONSTRUCTION

In the intervening time since the petition was filed, the district court issued a final claim construction ruling (Ex. 1027) that addressed certain terms under the same claim construction standard. For purposes of this proceeding, Patent Owner submits that all terms should be interpreted consistent with the constructions adopted in the district court's claim construction ruling. (Ex. 1027 at 34; Shamos at ¶ 56). To determine whether the district court construction should be applied, the Board uses non-exclusive factors such as (1) similarities between the actions, (2) whether the prior claim construction is final, and (3) whether the terms construed by the district court are necessary for the Board in deciding issues before it. (Ex. 2006 at 13.) Petitioner has argued that its constructions should be applied, but that if the district court's constructions were adopted, the '125 patent is still obvious" under the arguments Petitioner advances. (Paper 7 at 1.) Factors 1-3 all favor the district court constructions since Petitioner advocates for the identical claim constructions it made to the district court action, the district court entered a final order on the same terms, and because Petitioner argues that the constructions are invalid under its proposed constructions or the district court's constructions. Below is a chart showing the district court and Apple's proposed constructions.

Term	District Court's Construction[1]	Apple District Court and IPR Construction
"WMA"	software that enables management of an electronic wallet including, but not limited to, the functionality of storing account specific information (Ex. 1027 at 34.)	"software application for storing duplicate account specific information accessible to the mobile wallet application." (Ex. 1027 at 5; Paper 1 at 14.)
"Widget"	Plain-and-ordinary meaning, where the plain-and-ordinary meaning is software that is either an application or works with an application, and which may have a user interface. (Ex. 1027 at 34.)	"user interface software application" (Ex. 1027 at 13; Paper 1 at 16.)
"mobile wallet application"	Plain-and-ordinary meaning (Ex. 1027 at 34.)	"mobile wallet software application capable of being independently downloaded and installed" (Ex. 1027 at 17; Paper 1 at 18.)
"SE information"	information related to the SE including, but not limited to, production life cycle, card serial number, card image number, and integrated circuit card identification (Ex. 1027 at 34.)	"information relating to the secure element" (Ex. 1027 at 21; Paper 1 at 18.)
"Mobile device information"	Plain and ordinary meaning. (Ex. 1027 at 34.)	"hardware or software properties relating to the mobile device." (Ex. 1027 at 25; Paper 1 at 19.)
"Over-the-Air (OTA)	"software, in conjunction with relevant hardware, that provisions contactless card	"mobile device software application for communication

[1] Ex. 1027 at 34.

Proxy" and "OTA Proxy"	applets, captures mobile device information (including SE information), transmits data (mobile device and SE specific information) to the TSM system, and receives APDU commends from the TSM and appropriately forwards them." (Ex. 1027 at 34.)	between a secure element and a server over a mobile network" (Ex. 1027 at 27; Paper 1 at 19.)
provision[ing]	Plain-and-ordinary meaning, where plain and ordinary meaning is "mak[e/ing] available for use." (Ex. 1027 at 34.)	"Provid[e/ing] and/or mak[e/ing] available for use" (Ex. 1027 at 32; Paper 1 at 19.)

Apple's proposed constructions are wrong for the reasons identified in the district court claim construction order and as additionally set forth below:

A. <u>"mobile device information"</u>

The Board should adopt the district court's construction of the term "mobile device information." (Shamos ¶ 56.) Mobile device information has its plain and ordinary meaning, information about a mobile device. (Shamos ¶ 58.) Apple's construction of "hardware or software properties relating to the mobile device," is inconsistent with the '125 patent specification. The construction not only imports limitations into the claims, but also because the '125 patent specification teaches that the mobile device information may include an identification number that is neither hardware nor software, specifically the MSISDN, which is a number used to uniquely identify the user of the mobile phone. (Ex. 1001 at 6:52-62; Shamos at ¶ 58.)

B. "mobile wallet application"

The Board should adopt the district court's construction of the term "mobile wallet application." (Shamos at ¶ 67.) Petitioner seeks to construe "mobile wallet application" to import the limitation "capable of being independently downloaded and installed." The term "mobile wallet application, however, is not unclear. (*Id.* at ¶ 60.) A POSITA would understand the term to have its plain and ordinary meaning or "an application that provides a mobile wallet." (*Id.*) The '125 states that mobile wallet application 24 "*may* be downloaded independently." (Ex. 1001 at 6:46-51 (emphasis added); Shamos at ¶ 62-63.) However, just because a certain embodiment includes a mobile wallet application that may be downloaded independently does not mean that it must be capable of being independently downloaded. (Shamos at ¶ 63.) A POSITA would have easily understood that a mobile wallet application could preinstall the mobile wallet application at the time of manufacturing. (*Id.*) Indeed, Petitioner refers to '125 patent 4:64-67 (Ex. 1001), but this section merely confirms that phone manufacturers such as Google can supply the mobile wallet application along with Android. (Shamos at ¶ 65.) There is simply no passage identified by Petitioner that implies "independently downloadable." (*Id.*)

C. "over-the-air (OTA) proxy", "OTA proxy"

Petitioner's proposal of "mobile device software application for communicating between a secure element and a server over a mobile network" for

"OTA proxy" was rejected by the district court. (Ex. 1027 at 34.) An "OTA proxy," is a go-between that isolates a device from over-the-air sites. (Shamos at ¶ 70.) The term is used that way in the '125 Patent. (*Id.*)

Petitioner is wrong that the term "receives APDU command from the TSM and appropriately forwards them." (Shamos at ¶ 75.) The argument is based on the fact that claim 6 (which is not an ancestor of either claim 16 or claim 23) expressly requires APDU commands" while claims 16 and 23 do not. (Id) Petitioner reasons that "when the patentee intended to require the use of APDU commands, it did so expressly." (Paper 7 at 3.) However, that argument ignores the specification and the fact that no "OTA proxy" is recited in claim 6. (Shamos at ¶ 75.)

In the Supplemental Filing, Petitioner expresses the view that, except for the phrase "receives APDU commands from the TSM and appropriately forwards them," all of the other limiting phrases in the Court's construction of "OTA proxy," namely "provisions contactless card applets, captures mobile device information (including SE information), transmits data (mobile device and SE specific information) to the TSM system," are expressly recited in claim 23. (*Id.*) Petitioner argues further that it is improper to import all of the foregoing limitations into claim 16, which would be the effect of the Court's construction. (*Id.*) Recognizing its uphill battle, Petitioner at 3-5 of Paper 7 argues that, even if the Court's construction is adopted here, the prior art renders the additional APDU limitation obvious. (*Id.*)

In the analysis below for Ground 1 (in which both claims 16 and 23 appear), the APDU limitation is not relied on as distinguishing any prior art. Therefore, even if the APDU limitation were obvious, the result would not change. (*Id.*)

D. "provision[ing]"

The Board should adopt the district court's construction of the term "provision[ing]." (Shamos at ¶¶ 77-78.) Petitioner's construction of "provid[e/ing] and/or mak[e/ing] available for use" should not be applied because it is possible to provide something without making it available for use. (Shamos at ¶ 77.) An example is an encrypted file, which can be "provided" to a user by sending it over a network. (*Id*.) However, without the decryption key, the file would not be "available for use." (*Id.*) The '125 Patent does not contemplate a situation in which material is provided but not made available, so it is wrong to include "providing" alone as a viable construction. (*Id*.)

E. "SE information"

The Board should adopt the district court's construction of the term "SE information" because there does not appear to be controversy over this term. (Shamos at ¶ 79.)

F. "wallet management applet"

The Board should adopt the district court's construction of the term "wallet management applet." (Shamos at ¶¶ 80-89.) "Wallet management applet" means

exactly an applet for wallet management or "software that enables management of an electronic wallet," and there is no basis for reading any further limitations into the construction. (Shamos at ¶¶ 82 and 89.)

Petitioner argues that the term is used more than 100 times in the intrinsic record. However, it is not used in the limited way that Petitioner suggests – i.e. that it is confined to "duplicate account specific information." (Shamos at ¶ 85.) The word "duplicate" appears only once in the '125 Patent (Ex. 1001 at 6:9) and appears in a context wholly unrelated to the WMA. (*Id.*) Further, none of the passages cited in Dr. Neuman's ¶¶ 82-84 use the word "duplicate." (*Id.*) The '846 provisional application referenced by Dr. Neuman does disclose the fact that duplicate account information may be stored separately within the WMA 21 (Neuman at ¶ 85), but this reference and the other provisional applications do not imply that *only* duplicate information can be stored there or that duplicate information must be stored there and there is no mention in the '125 patent that "duplication" is required or a defining characteristic of the patent. (Shamos at ¶¶ 85-89.)

G. "widget"

The Board should adopt the district court's construction of the term "wallet management applet." (Shamos at ¶¶ 90-104.) Apple's proposed construction seeks to define the limitation widget as an independent software application instead of software that works with an application, and may have a user interface. (Shamos at

¶ 91.) Here, it is not necessary to go beyond the specification to learn the meaning of "widget." It is clear that a "widget" can be an application, but is not necessarily an application itself. (*Id.* at ¶¶ 92-93; Ex. 1001 at 3:41-42; 5: 6-7; 6:1-3; 8:19-22; 8:23-26; 8:63-65.)

Petitioner's reliance on Swick (Ex. 1023, "Swick") is misplaced. (Neuman at ¶ 94). *Swick* makes it clear that a widget is *not* necessarily an application, but works with an application. Ex. 1023 at 4 ("the clients of the widget (*i.e*. the application program or a composite widget of which this widget is a component) are guaranteed that all exposure and input events sent by the X server for the window defining the widget will be processed completely by the widget"); Shamos at ¶ 95.) Moreover, Swick lists many widgets that are obviously not software applications themselves, *e.g*., "button widget," "text widget," "label widget," "toggle widget," and many more. (*Id.* at ¶ 96.) Petitioner also ignores relevant portions of the '125 patent that do not require a widget and disclose that a widget may reside within an application. (Shamos ¶ 97 (citing '125 patent at 3:41-42 and 8:23-26).) In summary, a widget *can* be an application but is not *necessarily* an application. (Shamos at ¶¶ 98-104.)

V. OVERVIEW OF THE ALLEGED PRIOR ART

A. Aiglstorfer - U.S. 2010/0138518, Ex. 1004 ("Aiglstorfer")

Aiglstorfer discloses methods for provisioning an electronic wallet in a portable device (Ex. 1004 at [0027]). As shown below in Figure 1, Aiglstorfer

discloses a remote server 130 that communicates with the first moblet software module (109, 111, 117, and 119). The first moblet software module manages additional moblet software modules. (*Id.* at [0030].)

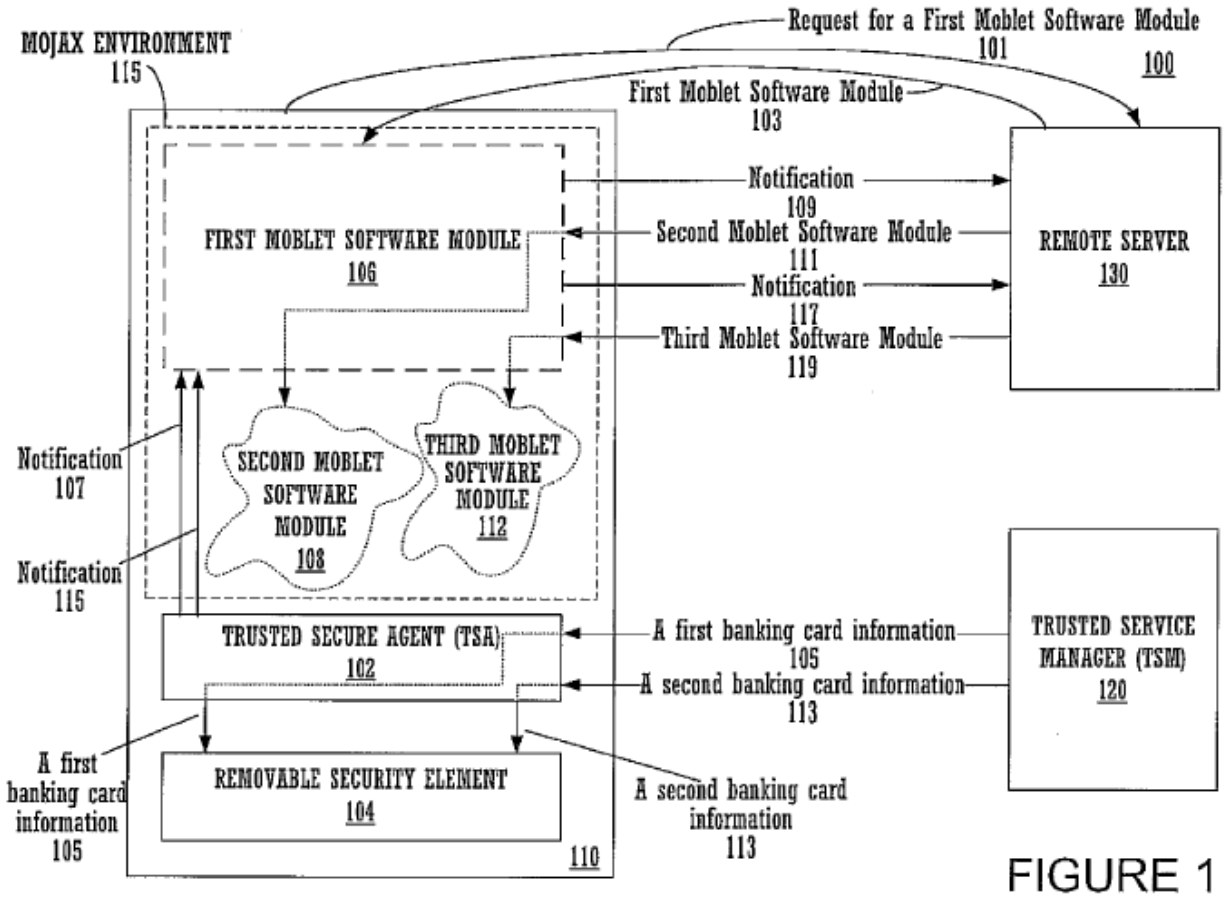


FIGURE 1

The moblet software modules are operable in the MOJAX environment OS. (*Id.* at [0030].) The installed MOJAX core may be device specific, but since it operates as a platform for operation of the moblets, the moblets themselves may be written in a device independent syntax that is only MOJAX specific. (*Id.* at [0060].)

Aiglstorfer discloses that mobile device sends a request to the remote server to request the first moblet software. (*Id.* at [0030]-[0031].) The request may include

the device type of device 110. (*Id.* at [0030].) In response, the remote server transmits the first moblet software and may also transmit a device dependent software environment, *e.g.* MOJAX. Aiglstorfer does not explain whether or how the mobile phone device type might be used in the downloading process. The TSM can transmit banking card information to a trusted secure agent ("TSA"), which resides on the device and acts as a communication gateway between the TSM and the device, if the user is verified. (*Id.* at [0034].) The TSM transfers banking card information to the mobile phone if the user is verified. (*Id.*) The banking card information is stored in the removable security element 104.

The TSA may also notify the first moblet software module 106 that the first banking card information has been received and is stored in the removable security element 104 and the first moblet may in turn notify the remote server. (*Id.* at [0036].)

Of note, Aiglstorfer does not teach synchronization between the first moblet and the TSM. The only disclosed communications are push notifications from the TSM to the first moblet notifying the first moblet that banking information has been stored. (*Id.*)

B. Buhot - - U.S. 2010/0190437, Ex. 1005 ("Buhot")

Buhot relates to providing near field communication (NFC) of payment card capability to a mobile device having a secure element. Two types of communication are disclosed, NFC and RF (GSM) communication. Fig. 2 of Buhot shows the

overall architecture of a mobile wireless communication device 102. Processing unit 200 controls the operation of the device. RF communication section 202 provides connection to a mobile network. NFC communication section 204 provides NFC services for the mobile device. (Ex. 1005 at [0038].) Block 214 is a man-machine interface (MMI). (*Id.* at [0039].) Block 216 is a program memory containing stored programs for operation of the mobile device 102. NFC unit 218 may serve as a secure element. (*Id.* at [0040].)

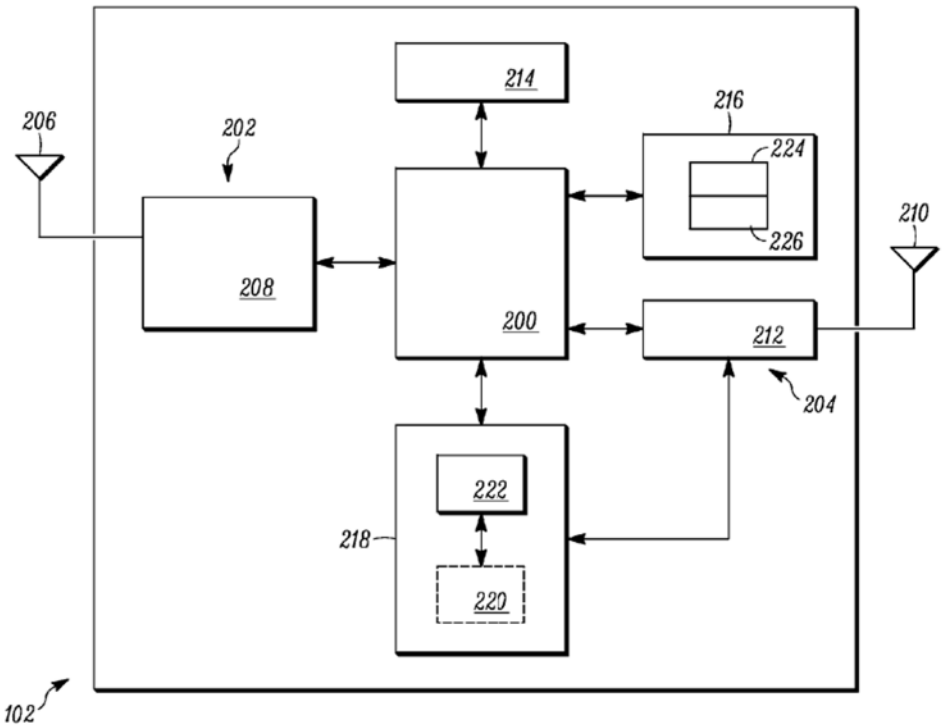


FIG. 2

Block 300 in Buhot Figure 3 shows the secure operating environment of NFC unit 218 and block 301 represents the operating environment of the main processor 200 and main memory 216. (*Id.* at [0049].) Block 300, below, shows a plurality of

NFC application elements 302-312 and operating system 314 of the NFC unit 218. (*Id.*)

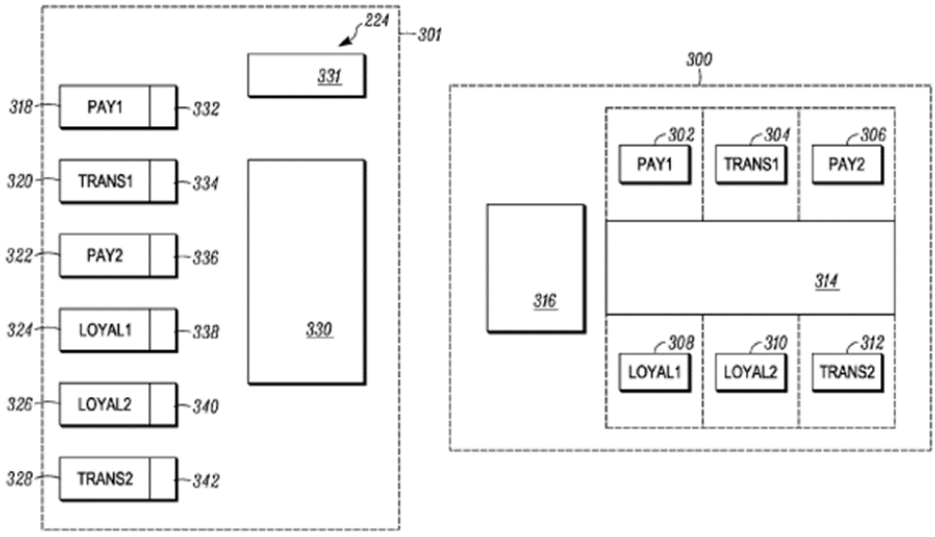


FIG. 3

Fig. 3 also shows NFC managing elements 318-328. Each of the plurality of NFC managing elements is associated with at least one of the plurality of application elements 302-312 stored in the NFC unit 218 for managing the at least one associated application element of the plurality of application elements. (*Id*. at [0046].) The user interface element 224 is for interfacing with at least some of the NFC managing elements 226. (*Id*.) The NFC managing elements are arranged to manage at least one associated application element. (*Id*.) Database element 316 can store summary information for the NFC application element, which can be provided to the user through the user interface. (*Id*. at [0099]-[0100].)

Buhot acknowledges the difficulties a user faces in managing standalone NFC application elements and that the number of NFC services and application element providers is increasing. (*Id*. at [0019].) Buhot also acknowledges that modifying contactless application elements for interoperability or interfacing with other elements or OTA provisioning would require application element providers to modify the reference application elements to support these services, but that this would involve extra cost, new code baseline, new deployment, and new certification processes. (*Id*. at [0020].)

C. Wang

Wang is directed to a TSM system that provisions a SIM or UICC card in a mobile phone to serve as an NFC payment card. It discloses no concept of an electronic wallet, wallet management applet, widget, GUI, displaying a contactless card applet, wallet management system, device profile management, user profile management or OTA proxy. In short, it has little in common with either the '125 Patent or the other references with which Dr. Neuman combines it.

Wang discloses a TSM that includes a card management module having a card information management unit for managing card information, a security management module that includes a key management unit for key generation, storage, and distribution; and an application management module for receiving an application request submitted by a user terminal, acquiring corresponding

information from a card management module and security management module, and processing the application request. (Ex. 1009 at Abstract.) The application management module, the card management module and the security management module are connected to one another. (*Id.* at 2.)

Wang indicates that the NFC working group of the Global System for Mobile Communications Association ("GSMCA") has proposed establishing TSMs as management platforms in NFC systems but found that TSM platform research was still in the initial stage and that designing the internal structure of TSM systems and providing them with good modularity and scalability requires further research. (*Id.* at 4.)

Wang discloses that the TSM system may possess "card information" including card operating system, card version, card owner, and card batch information. (Wang at 5.) Wang discloses that the application test unit is configured to receive an application request submitted by a user terminal. (*Id.* at 7.) The application test unit examines and tests an application request and notifies the application download unit after the test is passed. (*Id.*) Wang does not disclose what is tested for, how any tests are performed, or what the criteria are for passing any test. (Shamos at ¶ 118.) The application request includes user card identifier information such as a card identifier or user identifier. (Ex. 1009 at 8.) The user's

current card information is then acquired from the card management module based on the identifier information carried in the request. (*Id.*)

There is no indication in Wang that anything is ever displayed to a user – indeed, the TSM of Wang would operate perfectly well with phones that have no display at all. (Shamos at ¶ 119.) There is also no teaching in Wang that a SIM card could be provisioned with more than one payment card. (*Id.*) In fact, if more than one payment card were present, no mechanism is disclosed that would allow a user to select a particular card, and thus could not use the phone in place of a credit card. (*Id*.)

VI. ARGUMENT

A. The Board Should Exercise its Discretion and Deny Institution Under §314(a) AND 37 C.F.R. § 42.108(b).

The Board should exercise its discretion and deny institution because all of the issues raised in the IPR will be addressed by the district court months before a final written decision is entered. The district court has already issued a claim construction order in the district court proceedings (Ex. 1027) and final invalidity contentions have been served with identical prior art grounds. (Ex. 2010.) Patent Owner has also asserted a declaratory judgment claim on validity against Petitioner covering all IPR grounds and the district court trial is scheduled on November 16, 2020. (Ex. 2009.) Assuming institution, a final written decision will not be entered until approximately six months after the district court trial on November 16, 2020.

The Director should exercise its broad discretion to deny this petition under 35 U.S.C. § 314(a) ("exercising discretion under 35 U.S.C. § 314(a) and 37 C.F.R. §42.108(a), we are mindful of the goals of the AIA—namely, to . . . make the patent system more efficient . . . ." (*See General Plastics Indus. Co., Ltd. v. Canon Kabushiki Kaisha,* IPR2016-01357, Paper 19 at § II.B.4.i. (P.T.A.B. Sept. 6, 2017).)

Efficient administration of matters before the Office counsels against institution under these unique circumstances. (*See* 35 U.S.C. § 316(b).) The Trial Practice Guide has acknowledged the Board's discretion to deny petitions outside of the "follow on" petition context. *See* Ex. 2006 at *10 ("This includes, for example, events in other proceedings related to the same patent, either at the Office, *in district courts*, or the ITC."), *see also Nhk Spring Co., Ltd. v. Intri-Plex Techs., Inc.*, No. IPR2018-00752, 2018 WL 4373643, at *7 (Paper 8 at 20) (PTAB Sept. 12, 2018) (precedential) (denying institution that, where Petitioner asserts the same art in district court litigation). The facts in this case warrant the same result.

1. The District Court Trial is Scheduled for November 16, 2020, Six Months Before the Estimated Deadline to Issue a Final Written Decision.

The district court trial is set for November 16, 2020. (Ex. 2009.) A decision on institution in this IPR will issue within three months from this paper, by May 15, 2020. If instituted, a final written decision would institute within one year of institution, no later than May 15, 2021, approximately six months after the district

court trial. The trial would assess validity of the same asserted claims, under the same legal standards, between the same parties. *NetApp, Inc. v. Realtime Data LLC*, IPR2017-01195, Paper 9 at 12-13 (P.T.A.B. Oct. 12, 2017) (denying institution) ("The result would be a significant waste of the Board's resources. There would be no offsetting conservation of the [district court's] judicial resources because any final written decision in this proceeding would not issue until well after the scheduled trial date in the [district court] [l]itigation."); *see also Next Caller, Inc. v. TrustID, Inc.*, IPR2019-00961, Paper 10 at 14-15 (P.T.A.B. Oct. 16, 2019) (denying institution where trial was scheduled to start about three months before expected final written decision); *E-One, Inc. v. Oshkosh Corp.*, IPR2019-00161, Paper 16 at 6 (P.T.A.B. May 15, 2019) (denying institution where trial was scheduled to start one month before expected final written decision).

2. The Identical Claims and Invalidity Arguments are Asserted in Both the IPR and the District Court Litigation

The district court and IPR both address the same asserted claims, claims 11, 13-14, 16-18, 20-25. (*See* Paper 1 at 6 ("Petitioner … is only challenging claims asserted in the district court litigation.") Moreover, the IPR and district court address the same prior art and invalidity arguments. Patent owner filed a declaratory judgment claim against Petitioner covering the IPR grounds. (Ex. 2008.) Apple's final invalidity contentions also assert invalidity over Aiglstorfer in view of Buhot

and Wang and Aiglstorfer in view of Wang. (*See* Ex. 2010 at pp. 24, 36, 47, 62, 76, 78, 85, 100, 113, 154, 197, 201, 209, 214 (referencing Exhibits B-1 (referencing Wang at Pg. 18); and Exhibit B-4 (referencing Buhot at Pg. 3).) In this unique case, the identical nature of the arguments warrants the Director to use its discretion to decline institution. This "substantial overlap" in arguments further supports denial. *See E-One, Inc. v. Oshkosh, Corp*., IPR2019-00162, Paper 16 at 6, 9-10 (P.T.A.B. June 5, 2019) (denying institution under § 314(a) based, in part, on "substantial overlap" between the grounds in the petition and the invalidity contentions).

3. The District Court Already Entered a Claim Construction Order

Preliminary claim constructions in the district court were exchanged on August 22, 2019. (Ex. 2023 at ECF p. 2.) Claim construction briefs were filed in September/October 2019. (*Id.*) A joint claim construction statement and technology tutorials were filed on October 24, 2019. (*Id.*) A Markman hearing conducted on November 11, 2019 and a claim construction order was entered on November 27, 2019. (Ex. 1027.) Petitioner filed a supplemental IPR petition (Paper 7) after the district court entered the claim construction order and confirmed that Petitioner would not adopt the district court's claim construction order. (Paper 7 at 1 ("Apple respectfully submits that its construction should be applied in this proceeding, as explained in Apple's Petition.") Thus, Petitioner seeks to collaterally attack the

district court's claim construction findings by rearguing the same arguments presented to the district court. Petitioner's desire to change the district court's rulings, however, is not a valid ground to subject the patent holder to a second parallel proceeding. In this unique case, the identical nature of the claim construction arguments already decided warrants the Director to use its discretion to decline institution. *See, e.g., Nhk*, IPR2018-00752, Paper 8 at 19-20 (denying institution where, among other things, IPR would "apply the same standard for claim construction as the district court" and hence "the district court proceeding will analyze the same issues and will be resolved before any trial on the Petition concludes").

4. Substantial Resources Have Already Been Invested in the District Court Proceeding.

The "advanced state of the district court proceeding is an additional factor that weighs in favor of denying the Petition under § 314(a)." *Id.* at 20. Here, the district court and the parties already invested substantial resources in the litigation. Fact discovery is underway and will conclude by April 23, 2020, before any institution decision in this matter. (*See* Ex. 2023 at ECF p. 2.) The claim construction order already issued on November 27, 2019. *Id*. at 5-6; *see also*, e.g., *E-One*, IPR2019-00162, Paper 16 at 13, 20 (denying institution where "district court ha[d] already expended substantial resources" by, among other things, "receiv[ing] briefing and

hear[ing] oral argument on claim construction, and issu[ing] a claim construction ruling"). In addition, opening expert reports on validity are scheduled for May 7, 2020, again preceding the deadline for the institution decision. (Ex. 2023 at ECF p. 2.) Expert discovery will end by July 17, 2020, shortly after any IPR could be instituted. (*Id*.) Therefore, the advanced state of the district court litigation further supports denial.

Aiglstorfer, the main reference used for the 103 combinations, was also disclosed to the Patent Office during prosecution.

VII. PETITIONER HAS NOT SHOWN A REASONABLE LIKELIHOOD THAT ALL THE CHALLENGED CLAIMS OF THE '125 PATENT ARE UNPATENTABLE UNDER 35 U.S.C. § 103

The Board should decline to review the Petition under 35 U.S.C. § 314(a) because, as set forth in more detail below, there is no likelihood that Petitioner will prevail with respect to any challenged claims.

A. Legal Standard

Under 35 U.S.C. § 103, the question is whether the claimed subject matter would have been obvious to a POSITA at the time the invention was made. To assess the issue, the scope and content of the alleged prior art are to be determined; differences between the alleged prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Secondary considerations such as commercial success,

long felt but unsolved needs, and failure of others should also be considered. *Id.* at 35-36.

A reference must be considered for all that it teaches, including disclosures that diverge and teach away from the invention at hand as well as disclosures that point toward and teach the invention. *In re Dow Chem. Co.*, 837 F.2d 469, 426 (Fed. Cir. 1988). It is improper to take statements in the alleged prior art out of context and give them meanings they would not have had to a person of ordinary skill having no knowledge of the claimed invention. *In re Wright*, 866 F.2d 422 (Fed. Cir. 1989).

Each *Graham* factor must be addressed before a conclusion of obviousness can be reached. *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1077 (Fed. Cir. 2012). Importantly, the obviousness inquiry must be taken without any "hint of hindsight," *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1375 (Fed. Cir. 2011), so as to avoid "reconstruction by using the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." *In re NTP, Inc.*, 654 F.3d 1279, 1299 (Fed. Cir. 2011) (internal citation omitted).

Conclusory allegations regarding obviousness are insufficient to establish a reasonable likelihood of unpatentability in an IPR petition. *Sony Corp. of Am. v.*

Network-1 Sec. Sols., Inc., IPR2013-00092, Paper No. 21 at 19, 28 (P.T.A.B. May 24, 2013).

The Petitioners "must show some reason why a person of ordinary skill in the art would have thought to combine particular available elements of knowledge, as evidenced by the prior art, to reach the claimed invention." *Heart Failure Tech., LLC v. Cardiokinetix, Inc.*, IPR2013-00183, Paper No. 12 at 9 (P.T.A.B. July 31, 2013).

Regardless of whether a patent is being challenged based on a combination of references or a single reference, the party challenging the patent must show both (1) a "motivation" to arrive at the claimed arrangement, and (2) a "reasonable expectation of success." *In re Stepan Co.*, 868 F.3d 1342, 1346 (Fed. Cir. 2017). The Federal Circuit has cautioned that "[t]he inventor's own path itself never leads to a conclusion of obviousness; that is hindsight." *Otsuka Pharm. Co. v. Sandoz, Inc*., 678 F.3d 1280, 1296 (Fed. Cir. 2012). Thus, it is improper to rely on the patent itself as a roadmap for combining prior-art elements "like separate pieces of a simple jigsaw puzzle." *InTouch Techs., Inc. v. VGO Commc'ns, Inc*., 751 F.3d 1327, 1349 (Fed. Cir. 2014).

B. Ground 1: Claims 11, 13-14, 16-17, and 23-25 Are Obvious Over Aiglstorfer, Buhot, and Wang

In Ground I of the Petition, Petitioner asserts that claims 11, 13-14, 16-17, and 23-25 of the '125 patent would have been obvious based on the triple combination of Aiglstorfer, Buhot and Wang. As explained below, claims 11, 13-14, 16-17, and 23-25 would not have been obvious in view of Aiglstorfer, Buhot and Wang. (Shamos at ¶120.) Furthermore, there would have been no reason to combine Wang with either Aiglstorfer or Buhot, as explained above, because Wang is drawn to an entirely different type of system, one in which a virtual card resides within a SIM or UICC card and one devoid of wallets or a wallet management software. (*Id.*)

The alleged "combination" of the three references is not a true combination at all. (Shamos at ¶121.) Petitioner treats each reference as a laundry list of limitations that are chosen based on the limitations of the '125 patent claims from which it feels free to pick and choose from and consisting of improper hindsight. (Shamos at ¶¶ 121-22; *InTouch*, 751 F.3d at 1349 (rejecting jigsaw puzzle approach).) Petitioner was required to show how each Challenged Claim as whole is invalid and not that each limitation purportedly existed. (Shamos ¶ 122.)

C. Claim 11 Would Not Have Been Obvious in View of Aiglstorfer, Buhot and Wang

1. Limitation 11a: "activating the mobile wallet application"

Petitioner has failed to meet its burden to show that limitation 11a is taught

by Aiglstorfer. Petitioner argues that Aiglstorfer teaches limitation 11a. Petitioner argues that this limitation is met when the first moblet is downloaded and "becomes operable" or after download, the "first moblet" is "execut[ed] … using the device dependent software module." (Paper 1 at 31 (citing Aiglstorfer [0032] and [0066]-[0067l], Fig. 7A; Neuman at ¶¶ 203-209).) This disclosure does not disclose an activating step. (Shamos at ¶127.) Aiglstorfer discloses in [0032] that "the first moblet software module 106 is installed on the electronic device 110 and becomes operable on the electronic device 110." This does not disclose "activating," or explain "how it goes about activating." (Shamos at ¶ 127.) Aiglstorfer does explain at [0031] and [0066]-[0067] that device dependent software may reside on the portable device (*e.g.* manufacture), or may be downloaded from a "remote server," but again, this does not explain what does the activating. (Shamos at ¶¶ 127-29.) Petitioner thus has failed to meet its burden to show that this limitation is taught by Aiglstorfer. (Shamos at ¶ 130.)

2. Limitation 11c: "synchronizing the mobile wallet application with the TSM system"

Petitioner has failed to meet its burden to show that limitation 11a is taught by Aiglstorfer. (Shamos at ¶ 135.) Petitioner argues that Aiglstorfer teaches limitation 11c. Petitioner fails to even address what "synchronizing" means (Paper 1 at 32-33), but an embodiment is disclosed in 11:5-64 of the '125 Patent. As shown

in this excerpt, "synchronizing" means more than receiving a download of data. (Shamos at ¶ 133.) For example, when you visit www.amazon.com, you receive a download of the Amazon home page. However, that does not constitute synchronization because Amazon receives no information about my status. (Shamos at ¶ 133.) "Synchronization" is a two-way communication in which the status of the mobile wallet application is uploaded to the TSM system and the information in the TSM system concerning the mobile wallet application are conformed. (*Id.*) "Synchronizing" is not disclosed in Aiglstorfer, Buhot or Wang. (*Id.*) Petitioner appears to conflate transmitting banking card information from TSM to first moblet (Paper 1 at 32) "synchroniz[es]" because it allows for later use of the contactless card applets stored on the mobile device. (Shamos at ¶ 134.) But, Petitioner points to nothing in Aiglstorfer that suggests that the sender of the banking information learns anything about the mobile wallet application, so there is no synchronizing. (Shamos at ¶¶ 134-35.)

3. Limitation 11d: "displaying a contactless card applet based on attributes of the mobile device"

Petitioner failed to meet its burden to show that limitation 11d is taught by Aiglstorfer and Wang. (Shamos at ¶ 149.) Petitioner argues that both Aiglstorfer and Wang teach limitation 11d. (Paper 1 at 33.) Specifically, Petitioner argues that "Aiglstorfer's mobile wallet includes the claimed contactless card applets." (Paper

1 at 35; Neuman at ¶ 221.) First, Petitioner fails to point to anything in Aiglstorfer that indicates that contactless card applets are displayed in Aiglstorfer. (Shamos at ¶ 138-143, 147-149.) Petitioner's expert argues that "contactless card applet" is the "Card Applet" of Aiglstorfer, which resides outside of the mobile wallet 410. (Shamos at ¶ 138.) Aiglstorfer may display card moblets 420x, but does not explain the how the Card Applet is displayed, which is the only "applet identified by Dr. Neuman." (*Id.*; Neuman at ¶ 221.)

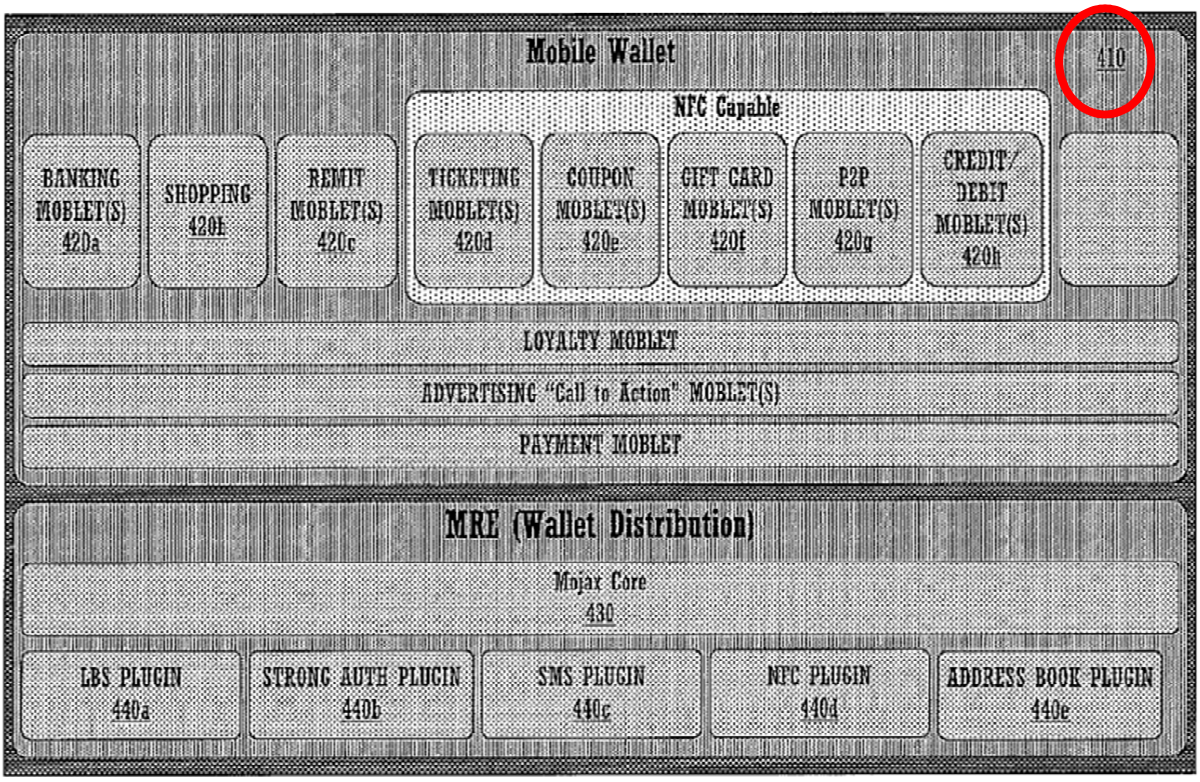


FIGURE 4

Dr. Neuman does refer to the mobile device receiving card moblets, but the moblets are widgets according to Dr. Neuman, not the applets. (Shamos at ¶ 124 (showing

Neuman mapping) and Neuman at ¶ 221.) The "mobile wallet" of Aiglstorfer, however, does not encompass the secure element of Fig. 6D (or of any other figure). (Shamos at ¶ 138.) Dr. Neuman then refers to Aiglstorfer as allowing user selection in paragraphs [0014], [0037], [0040], and [0060], but these passages describe moblets and not Applets. (Shamos at ¶ 140, *see also* Neuman at ¶ 224 (addressing moblets, not applets).) Dr. Neuman admits that "Aiglstorfer does not expressly state that the cards and associated moblets are available for download to a mobile device can be limited by device type" but argues that the MOJAX environment somehow limits "some of the software downloaded to its device." (Neuman at ¶ 225.) But Aiglstorfer does not disclose that moblets or applets are among those limited. (Shamos at ¶¶ 141-42.) In fact, Aiglstorfer discloses the contrary: "It is appreciated that moblet software modules are operable in a MOJAX environment operating on a device. According to one embodiment, MOJAX is device specific while moblet software modules operating within the MOJAX environment are device generic." (Aiglstorfer ¶ [0030]; Shamos at ¶ 142-143.) That is, the moblets are *not* device specific and Aiglstorfer also contains no disclosure that applets are device specific. (Shamos at ¶¶ 142-43.)

Petitioner's reference to Wang also does not meet the limitation. But Wang does not explain what "test" is intended to reveal, how the "test" is conducted or what the "test" consists of. (Shamos at ¶ 144.) In fact, Wang appears to test an

"application request" not an applet or moblet and is pass/fail with no criteria specified as to how the outcome is determined. Petitioner thus relies on pure speculation that the Wang "test" has anything to do with an applet or "attributes of the mobile device." (*Id.*) Petitioner's reference to O'Neil (Paper 1 at 36) is also unavailing. (*Id.* at ¶ 146.) O'Neill simply contemplates that, when sending an update to a device, it is useful to know characteristics of the device. ." (*Id.*) This does not imply in any way that applets are, or should be, device-dependent. (*Id.*)

Finally, in Ex. 1003 at ¶ 235, Dr. Neuman opines that a POSITA would have considered it obvious to "filter and limit the contactless banking cards displayed for user selection by Aiglstorfer's wallet to just those available for use with the device in question." He offers no explanation why such a thing would be true, given that applets are typically device-independent. (Shamos at ¶ 147.) He also takes the further leap of speculating that the unspecified "test" of Wang is precisely that sort of filtering, despite the fact that Wang contains no suggestion or disclosure to that effect. (*Id.*) Furthermore, Dr. Neuman has not pointed to any "displaying a contactless card applet" in either Aiglstorfer or Wang. (Shamos at ¶ 148.) Therefore, Dr. Neuman has not shown that this limitation is disclosed by Aiglstorfer or Wang. (*Id.* at ¶ 149.)

4. Limitation 11e: "receiving a selection of a contactless card applet"

Because Petitioner has not shown limitation 11d, it cannot show that a contactless card applet is selected. Therefore, Petitioner has not shown that this limitation is disclosed by the cited combination.

5. Limitation 11f: "retrieving a widget and a wallet management applet (WMA) corresponding to the contactless card applet"

Limitation 11g: "provisioning the selected contactless card applet, the widget, and the WMA."

Petitioner failed to meet its burden to show that limitation 11f and g are taught by Buhot. (Shamos at ¶ 149.) Petitioner admits that Aiglstorfer does not disclose a WMA, but argues that Buhot does. (Paper 1 at 40.) Initially, Aiglstorfer does not need a WMA because it is able to perform all of its stated functions without one through use of the remote server which provisions the moblets. (Shamos at ¶ 152.) Petitioner argues that Buhot discloses a WMA as the "database element 316" of Buhot (Paper 1 at 42 ("Buhot's database element 316 and the summaries it contains are the claimed 'wallet management applet (WMA)'"), but this is incorrect under either of the proposed constructions. ("Shamos at ¶ 153.) Under the district court's construction, the WMA must be software that enables management of the electronic

wallet,[2] but Buhot's "database element 316" does not manage anything, it simply stores summary information for application elements 302-312. (Ex. 1005 at [0099]; Shamos at ¶ 154.) The NFC managing elements manage the application elements stored in the NFC units, not database element 316. (Ex. 1005 at 0046; Shamos at ¶¶ 154-55.) Buhot additionally, does not disclose a WMA under Petitioner's construction of WMA - "software application for storing duplicate account specific information **accessible to the mobile wallet application**" (emphasis added). (Paper 1 at 14.) Buhot, instead, discloses the opposite: "The database element 316 is a stand alone application that does not interface or share data with other NFC application elements stored in the NFC unit 218." (Ex. 1005 at [0101]; Shamos at ¶ 154.) Thus the information in database element 316 is not "accessible to the mobile wallet application" as Petitioner's construction requires. (Shamos at ¶ 154.) Neuman at ¶ 166 identifies the "first moblet" of Aiglstorfer (*See* Shamos at ¶ 127) as the mobile wallet and argues that "Buhot employs a single wallet application with a GUI," citing Buhot at [0018]-[0019] and [0022]. However, those passages are contained in the Background and refer to the prior art, not the Buhot system. (Shamos at ¶ 154.) Therefore, Petitioner has not shown that these last elements of claim 11 are

[2] "software that enables management of an electronic wallet including, but not limited to, the functionality of storing account specific information." (Ex. 1027 at 34.)

disclosed, and has not shown that claim 11 as a whole would have been obvious in view of Aiglstorfer, Buhot and Wang.

D. Claim 13 Would Not Have Been Obvious in View of Aiglstorfer, Buhot and Wang

1. Claim 13: The method of claim 11, wherein synchronizing the mobile wallet application with the TSM system comprises: checking for a change made to a configuration of the mobile wallet application; and transmitting the change to the TSM system."

As explained in connection with claim 11, above, Petitioner has not shown that the cited combination discloses claim 11, including synchronizing limitation, so it cannot disclose claim 13. (Shamos at ¶¶ 134, 160.)

Petitioner misunderstands the claim language "checking for a change made to a configuration of the mobile wallet application." (Shamos at ¶ 158.) Petitioner argues that the installation of a new card to the wallet is the claimed "checking," in Aiglstorfer (Paper 1 at 43), but that is illogical and does not comport with the claim language. (*Id.*) In Aiglstorfer, a new card is added by making a request to a TSM. (Shamos at ¶ 158.) The TSM then downloads the appropriate moblet and banking information to the device. (*Id.*) Thus the TSM knows what change is being made to the mobile wallet application but the TSM itself makes the change, and there is no point in the device "transmitting the change to the TSM system" because the TSM is already aware of the change. (*Id.*) The claim language of this limitation corresponds to the '125 Patent at 11:54-64. (Shamos at ¶ 159.) This disclosure

contemplates that the user of the mobile device makes changes to the mobile wallet application that the TSM does not know about, and a synchronization step is required to inform the TSM of such changes. (Shamos at ¶ 160.) Aiglstorfer contains no disclosure of any such synchronization or uploading changes to the TSM. (Shamos at ¶¶ 134, 160.)

E. Claim 14 Would Not Have Been Obvious in View of Aiglstorfer, Buhot and Wang

1. Claim 14: The method of claim 11, wherein displaying a contactless card applet based on attributes of the mobile device comprises: retrieving mobile device information comprising SE information; transmitting the mobile device information"

As explained in connection with claim 11, above, Petitioner has not shown that the cited combination discloses claim 11, including "displaying" so it cannot disclose claim 14. (Shamos at ¶¶ 162-63.)

2. "receiving filtered contactless card applet for provisioning, wherein the contactless card applet is filtered based on the mobile device information"

As explained in connection with claim 11, above, Petitioner has not shown that the cited combination discloses claim 11, including "displaying" so it cannot disclose claim 14. (Shamos at ¶¶ 164-72.) Petitioner additionally relies on the identical Aiglstorfer and Wang arguments made in claim 11d. (Paper 1 at 46 ("Again Aiglstorfer explains 'As explained above for claim 11…'"). For the same reasons

described in the response above to 11d, Petitioner is incorrect. (Shamos at ¶¶ 162-72.)

Petitioner previously (Neuman at ¶ 198), argues that the "contactless card applet" of the claims was the "Card Applet" of Aiglstorfer, but does not show that Aiglstorfer discloses any filtering of a Card Applet in Ex. 1003 at ¶¶ 280-281. (Shamos at ¶¶ 165-66.) Petitioner argues that one skilled in the art would understand that identification/authentication process entails a confirmation that use of a particular banking card and associated widget is permitted on a user device. (Paper 1 at 46.) But authentication is not disclosed or used in Aiglstorfer to filter anything, but instead merely authorizes installation and Petitioner's suggestion that it does is impermissible. (Shamos at ¶¶ 168-69.) Likewise, in Ex. 1003 at ¶ 283, Dr. Neuman opines that a POSITA would have considered it obvious to "filter and limit the contactless banking cards displayed for user selection by Aiglstorfer's wallet to just those available for use with the device in question" is also impermissible hindsight. (Shamos at ¶ 147.) Lastly, the reference to Wang to supply filtering is improper as discussed in claim 11d above.

F. Claim 16 Would Not Have Been Obvious in View of Aiglstorfer, Buhot and Wang

1. Claim 16: The method of claim 11, wherein provisioning the selected contactless card applet, WMA and widget comprises: transmitting a request for installation of the contactless applet and the corresponding widget and WMA to be installed, wherein the WMA is a software application configured to store account specific information and the widget is an application configured to interface with a user of the mobile device"

As explained in connection with claim 11, above, Petitioner has not shown that the cited combination discloses claim 16. (Shamos at ¶ 173.)

Petitioner incorporates his argument for "retrieving" and "provisioning" in claim ll. (Paper 1 at 47.) Dr. Neuman further, discusses these additional limitations of claim 16 in Ex. 1003 at ¶¶ 287-288. Claim 16 is not disclosed in the referenced combination at least because no WMA is disclosed. *See* the discussion of claim limitations 11f and 11g, above.

2. "receiving the contactless applet, the WMA, and the widget information through OTA proxy"

Petitioner failed to meet its burden to show that the limitation is taught by Aiglstorfer, Wang, or Buhot. (Shamos ¶175-79.)

Petitioner argues that TSA 102 of Aiglstorfer is an OTA proxy. (Paper 1 at 47 ("'Moreover, it includes a 'trusted secure agent "TSA' 102 that 'resides on the electronic device' and acts as a secure 'communication gateway between the TSM 120 and the electronic device.'"); Neuman at ¶¶ 289-299.) This cannot be the OTA

proxy, however, because it doesn't satisfy the claim language. (Shamos at ¶ 175.) The "WMA" and "widget information" must be received through the OTA proxy, but Aiglstorfer discloses that the identified WMA (first moblet) and the widget information are received from the remote server 130 via a communication path that does not go through TSA 102. (*See* Ex. 1004 at Fig. 1; Shamos at ¶ 175.) Thus Aiglstorfer's TSA 102 cannot be the required OTA proxy. (*Id.*) Petitioner thus uses Wang to argue that an "integrated TSM" in Aiglstorfer's system would result in all communications being funneled through TSA 102. (Paper 1.) This is improper hindsight and ignores the fact that neither Aiglstorfer nor Wang disclose an OTA proxy under the Court's construction. (Shamos at ¶ 176.) Neuman suggests that Buhot somehow discloses an OTA proxy. (Shamos at ¶ 177.) He doesn't point to one, but says in ¶ 294 that "the OTA proxy is the software on the mobile device associated with the NFC unit 218 that the OTA server 112 would connect to facilitate the update and management of content." He doesn't say what it "would connect to," but that Buhot does:

> The update information sent from the OTA server 112 is received at the RF communication section 202 of the mobile device 102 and at the processing unit 200 and transferred to the NFC unit 218 to update the NFC unit 218 under the control of the processing unit 200."

(Ex. 1005 at [0113].) Thus the "software" Dr. Neuman refers to must be some combination of "RF communication section 202" and "processing unit 200."

(Shamos at ¶ 177.) However, Buhot does not disclose that these components perform the functions of an OTA proxy under the Court's construction or the claim language itself. (*Id.* at ¶178.) The construction requires the OTA proxy, for example, to transmit and receive information from a TSM, but Buhot does not disclose a TSM, and Petitioner does not even assert that it does. (*Id*.)

Buhot at [0043] refers to a "proxy," but only in connection with NFC communication, not network OTA communication:

> Communication between the NFC unit 218 and the processing unit 200 may occur via a direct connection through a serial link, such as an ISO link between the UICC interface 222 and the processing unit 200, or via the NFC modulator/demodulator 212 that acts as a proxy.

(*Id*. (citing Ex. 1005 at [0043].)

G. Claim 17 Would Not Have Been Obvious in View of Aiglstorfer, Buhot and Wang

1. Claim 17: The method of claim 16, wherein account specific information comprises at least one of a payment card number, a security code, an expiration date, and a personal identification number (PIN)."

As explained in connection with claim 16, above, Petitioner has not shown that the cited combination discloses claim 16, so he cannot show that it discloses claim 17. Petitioner cites to "retrieving a WMA" limitation of claim 11. (Paper 1 at 50, *see also,* Neuman at ¶¶ 300-303.) However, as explained in claim 11, because the combination does not disclose a WMA, it cannot disclose the additional

limitation of claim 17. (Shamos at ¶ 181.) Therefore, Dr. Neuman has not shown that claim 17 as a whole would have been obvious.

H. Claim 23 Would Not Have Been Obvious in View of Aiglstorfer, Buhot and Wang

1. Limitation 23b: "a mobile wallet application configured to store a widget corresponding to a contactless card applet, wherein the contactless card applet is stored in the SE"

Petitioner argues that this limitation is met for the same reasons for "activating the mobile wallet application," "retrieving a widget … corresponding to the contactless card applet," and "provision the selected contactless card applet, … [and] the widget" limitations of claim 1 (Paper 1 at 51, *see also* Neuman ¶¶ 308-309 and ¶¶ 203-209; 242-247.) Patent Owner therefore also refers to its response for those limitations. (Shamos at ¶ 184.)

2. Limitation 23c: "a wallet management applet (WMA) corresponding to the contactless card applet, wherein the WMA is stored in the SE"

Petitioner argues that this limitation is met for the same reasons for "retrieving a … wallet management applet (WMA)" limitation of claim 11. (Paper 1 at 52, *see also* Neuman at ¶ 310.) As shown above in connection with claim limitations 11f and 11g, the combination does not disclose a WMA, so it cannot disclose limitation 23c. (Shamos at ¶ 185.)

3. Limitation 23d: "an over-the-air (OTA) proxy configured to provision the contactless card applet, a widget corresponding to the contactless card applet, and the WMA"

Petitioner argues that this limitation is met for the same reasons for "provisioning.." limitation of claim 11 and "receiving…through OTA proxy" limitation of claim 16." (Paper 1 at 53, *see also* Neuman at ¶ 311.) As shown above in connection with these limitations, the limitations are not met at least because the combination does not disclose an OTA proxy and WMA. (Shamos at ¶ 186.)

4. Limitation 23e: "wherein said OTA proxy is configured to capture mobile device information comprising SE information"

Limitation 23f: "wherein said OTA proxy is configured to transmit the mobile device information for registering the mobile wallet application."

Petitioner argues that this limitation is met for the same reasons for "receiving … through OTA proxy" limitation of 16. (Paper 1 at 53, *see also* Neuman at ¶¶ 312-20.) Petitioner further incorporates Sections VII.C.4. As shown above in claim 11, in connection with these limitations, the limitations are not met at least because the combination does not disclose an OTA proxy. (Shamos at ¶ 187.)

I. Claim 24 Would Not Have Been Obvious in View of Aiglstorfer, Buhot and Wang

1. Claim 24: "The mobile device of claim 23, wherein WMA is configured to store account information associated with the contactless card applet, and the widget is configured to include a user interface."

Petitioner has not shown that the cited combination discloses claim 23, so it cannot show that it discloses claim 24. (Shamos ¶ 188.) Petitioner argues that the limitation is met for the same reasons explained for claim 17. (Paper at 55; Neuman at ¶¶ 321-322.) Because this combination lacks at least a WMA, the limitation of claim 24 are not disclosed. (Shamos at ¶ 189.)

J. Claim 25 Would Not Have Been Obvious in View of Aiglstorfer, Buhot and Wang

1. Claim 25: "The mobile device of claim 24, wherein the account information comprises at least one of a card number to access financial information, a security code, a personal identification number (PIN), and an expiration date."

Petitioner has not shown that the cited combination discloses claim 24, so it cannot show that it discloses claim 25. (Shamos at ¶ 191.) Petitioner argues that the limitation is met for the same reasons explained for claim 17. (Paper at 55; Neuman at ¶¶ 323-324.) Therefore, Petitioner has not shown that claim 25 as a whole would have been obvious. (Shamos at ¶ 191.)

VIII. A POSITA WOULD NOT HAVE BEEN MOTIVATED TO COMBINE AIGLSTORFER AND BUHOT, AIGLSTORFER AND WANG, OR AIGLSTORFER, BUHOT AND WANG

A fundamental problem with Petitioner's motivation to combine analysis is that Petitioner never explains what the structure of an Aiglstorfer-Buhot combination, Aiglstorfer-Wang combination, or Aiglstorfer-Buhot-Wang combination would look like. (Shamos at ¶ 192.) Petitioner never specifies which components would be retained in any combination, which components would be left out, or how the surviving components would interact with one another. (*Id.*). Petitioner treats the combinations as a jigsaw puzzle or catalog of parts which can be slapped together all because the references are purportedly in the "same field of endeavor" and because the combination would be "routine software design." (Paper 1 at 56, *see also Samsung Electronics Co., Ltd. v. Red Rock Analytics, LLC,* IPR2018-00557, Paper 18 (P.T.A.B. Aug. 20, 2018) (finding it was impermissible to rely on the patent itself "as a roadmap for putting what amounts to pieces of a jigsaw puzzle together.").)

With respect to the combination of Aiglstorfer and Buhot, for example, Petitioner offers no explanation of any of the following: (1) what role the remote server of Aiglstorfer would play in the combination, since it is absent from Buhot; (2) what the connection might be between the moblets of Aiglstorfer and the application elements of Buhot; (3) what role the TSM of Aiglstorfer would play in

the combination, given that Buhot does not disclose a TSM at all; (4) whether the combination would employ the MOJAX environment of Aiglstorfer or the unspecified "operating environment" of Buhot; (5) how the putative combination would deal with removable vs. nonremovable security elements. (Shamos at ¶ 193.) Actually Petitioner has not combined these references at all, but has selected various features of them at will and presumed that they could be integrated without showing how and why that might be done. (*Id.*) Indeed, Petitioner has merely selected various features at will and presumed that they could be integrated based on a routine software design without explaining how. (*Id.*).

Although Aiglstorfer and Buhot fall in the same general field of art (Shamos ¶194), the fact that two references share the same general field is not enough to provide a motivation to combine them. Wang does not fall within the same field of art as Aiglstorfer or Buhot is drawn to a TSM and does not disclose that the undefined "user terminal" has any kind of wallet. (*Id.*) Wang is limited to the provisioning of a SIM/UICC card with "card information." (*Id.*) Moreover, the various proposed combinations are not combinations based on predictable uses of prior art elements with established functions. *KSR Int'l Co. v. Teleflex Inc.,* 550 U.S. 398, 417, 127 S. Ct. 1727, 1740, 167 L. Ed. 2d 705 (2007). Wang acknowledged that TSM platform research was at its initial stage and it was unclear on how to effectively design the internal structure, provide them with good modularity and

scalability required further research. (Ex. 1009 at 4.) Buhot also acknowledged difficulties for a user to manage standalone NFC application elements and that the number of NFC services and application element providers increase. (Ex. 1005 at [0019].) Buhot also acknowledged modifying contactless application elements for interoperability or interfacing with other elements or OTA provisioning was not a simple task. (Ex. 1005 at ¶ 0020.) These are not predictable uses of prior art elements with established functions. Petitioner's assertion of obviousness is unsupported. (*See* Neuman at ¶ 329.)

Petitioner asserts that "Aiglstorfer's mobile wallet is intended to be similar to a conventional wallet", citing Aiglstorfer at [0008]. (Paper 1 at 60; Neuman at ¶331.) Aiglstorfer does not say that. (Shamos at ¶ 197.) What it actually says is: "It is advantageous to combine the functionality of a conventional card with an electronic device to create an electronic wallet to enable a user to interact with an account associated with the conventional card." (Ex. 1004 at [0073].) There is no discussion anywhere in Aiglstorfer of a "conventional wallet." (Shamos at ¶ 197.) If Aiglstorfer had intended to imitate a conventional wallet, it presumably would have done so. (*Id.*)

Petitioner further argues that (Neuman at ¶ 333) it would be useful for a user to be able to examine card information graphically. (Shamos at ¶ 198.) Even supposing this to be true, Dr. Neuman provides no reason that anyone would look to

Buhot for such a solution. (*Id.*) Even assuming that a POSITA would have wanted to add graphical display of card information to Aiglstorfer, Dr. Neuman proposes to use Buhot "database element 316" for that purpose. (*Id.*) But, database element 316 has many functions, none of which is display, as detailed in Buhot at [0103]-[0106], including "commands to set/get the Application Identifier (AID) of the different NFC application elements 302-312 stored in the NFC unit 218," "command to set/get the default AID of a NFC application element when further NFC application elements are related to the same use case or activity such as in the case where there are multi-card payment application elements," and "commands to manage a pool of Contactless Application Lock Codes (CALC) or similar security codes for the NFC application elements." (*Id*.)

Petitioner argues that Buhot "confirms its applicability to Aiglstorfer and the benefit brought by the incorporation of its database element 316 into Aiglstorfer's mobile wallet application." (Neuman at ¶¶ 336-339.) Petitioner argues that Buhot explains that "it is difficult for a user to view and manage all the available contactless cards on the device." (Neuman at ¶ 336.) Buhot actually does not say that. (Shamos at ¶ 199.) Buhot says at [0019] that it is difficult for a user to manage several "stand alone NFC applications." (*Id*.) However, even if this teaching of Buhot is interpreted to apply to contactless cards, Aiglstorfer already solves the management problem through its "first moblet software module 106" "that may in turn manage

additional moblet software modules." (Ex. 1004 at [0030].) Thus, adding Buhot to Aiglstorfer would only add another solution to a problem Aiglstorfer itself solves. (Shamos at ¶ 199.)

Petitioner argues that "Buhot employs a single mobile wallet application that manages multiple cards." (Neuman at ¶ 337.) Petitioner argues that "Aiglstorfer similarly employs a single application," but goes on to say that Buhot's database element 316 "allows Buhot to relay additional information to the wallet through its graphical user interface." (*Id.*) However, this is what the second and third moblets, *etc*. of Aiglstorfer do:

> "According to one embodiment of the present invention, the electronic wallet may display graphical icons of the second and third moblet software modules on a display of the electronic wallet. As such, the graphical user interface (GUI) allows user selection of the second and third moblet software modules.

(Ex. 1004 at [0014]; (Shamos ¶ 200). Thus, Aiglstorfer has no need of Buhot for this function. *(Id.)*

Petitioner next introduces eWallets ((Paper 1 at 57-60;Neuman at ¶¶ 339-347), but eWallets is not relevant since the "iPAQ for Dummies," (Ex. 1024), a book of over 360 pages, of which two are devoted to an application called "Ilium eWallet." This eWallet, however, is not a "wallet" at all, but a specialized text database application in which a user can manually fill in details of all of his credit cards so he won't forget credit card numbers, PINs, etc., but can access them quickly through

his pocket PC. (Ex. 1024 at 330.) This is no different than writing down credit card numbers, expiration dates, CVVs and PINs manually in a spiral notebook. (Shamos at ¶ 201.) This credit card information cannot actually be used to buy or pay for anything – the application simply stores and displays text – and is useless as a "wallet." (*Id.*) There is no TSM, no secure element, no contactless cards, no NFC, no applets, no moblets, no wallet management applet and no provisioning. (*Id.*) Any connection between eWallet and the '125 Patent is thoroughly elusive, and it provides no motivation to combine any of the cited references. (*Id.*)

As a result, Petitioner's arguments that eWallet can be used with Aiglstorfer and Buhot to develop a mobile wallet application (Neuman at ¶347) is unrealistic because eWallet is not a mobile wallet at all. (Shamos at ¶ 202.) Thus a POSITA would not combine Aiglstorfer and Buhot based on eWallet and Petitioner's various other arguments. (Shamos at ¶ 202-05.)

Petitioner also fails to justify combining Aiglstorfer with Wang. (Paper 1 at 61-62; Neuman at ¶¶ 349-365.) First, Wang has no need at all for moblets since it does not disclose a wallet, wallet management or widgets. (Shamos at ¶ 204.) There is no need for such artifacts because Wang does not disclose displaying anything to a user. (*Id.*) At step 101, Wang discloses using SMS, WAP or WWW to request download of an "application," which corresponds to a payment card. (Ex. 1009 at 7-8.)

Petitioner next draws the unsupported conclusion that "when implementing the mobile wallet applications of Aiglstorfer and Buhot, one of ordinary skill in the art would look to other references discussing the needed remote systems in more detail." (Neuman at ¶ 351; Shamos ¶ 205) There is no basis for such a conclusion. Aiglstorfer and Buhot are issued patents, for which it is presumed that they teach a POSITA how to make and use the claimed inventions without undue experimentation. (Shamos ¶205.) Therefore, there would be no reason for a POSITA to "look to other references discussing the needed remote systems in more detail." (*Id.*) In any case, Wang is not such a system because it does not relate to wallet management. (*Id.*)

Aiglstorfer provides details of remote server 130, 230 at least at [0030], [0037], [0040], [0043], [0045], [0049] and [0055]. (Shamos ¶206.) Aiglstorfer provides details of trusted service manager 120, 220 at least at [0029], [0034], [0039], [0044], [0046], [0048] and [0050]. (*Id.*) Therefore, a POSITA would not have been motivated to look outside for the "details" referred to by Dr. Neuman.

Buhot provides details of the OTA server 112 and service provider server 114 at least at [0110], [0111], [0112] and [0113]. (Shamos ¶207.) Therefore, a POSITA would not have been motivated to look outside for these "details." (*Id.*)

Regardless, no POSITA would look to Wang for any such "details." (Shamos at ¶ 208.) Wang, at least in the translation provided by Petitioner, is almost

incomprehensible, and provides virtually no "details" of any remote system beyond specifying certain functions it may perform. (*Id.*) In particular, the description of the "tests" performed by the "application management unit" are entirely non-specific. (*Id.*) Therefore, a POSITA would not have consulted Wang for any such "details" and Wang does not provide any "valuable insight," as Petitioner asserts (Neuman at ¶ 351.)

Petitioner next argues that Wang's combining of a TSM with a remote wallet manager server would result in simplicity and efficiency. (Neuman at ¶¶ 352-354.) However, Wang does not even disclose such a server because Wang doesn't disclose a wallet. (Shamos at ¶ 209.) Further, the role of the TSM, according to Aiglstorfer, is to send "secure information, *e.g.*, financial information, regarding a specific user to the electronic device **110.**" (*Id.*; Ex. 1004 at [0029].) The moblets of Aiglstorfer do not need to be sent by a secure site because they are useless until provisioned by a TSM. (Shamos at ¶ 209.) Therefore, the supposed "efficiency" of combining the remote server and TSM ignores the fact that the TSM would thereby be overloaded with requests for content that does not need to be delivered securely. (*Id*.)

Petitioner next argues that the "application test unit" will "filter those requests so that only those applications permitted for use by a particular user on a particular device are made available for download." (Neuman at ¶ 355.) Wang makes no such disclosure, so the function of Wang's testing is pure speculation. (Shamos at ¶ 210.)

Petitioner even enlarges Wang (Neuman at ¶ 356-358 (and 364)) to perform functions that are not even remotely disclosed in Wang. (Shamos at ¶ 210-12.)

However, in Ex. 1003 at ¶356-358 (and 364), Dr. Neuman builds on this speculation to enlarge the Wang test unit to perform functions that are not even remotely disclosed in Wang. Petitioner even goes as far as arguing that the selection of particular features provided by a mobile wallet application is a "noninventive" and that there would be a "reasonable expectation of success" to combine the references despite the fact that there is no support for the statements, including any attempt to explain how the combination would be made. (Shamos at ¶ 211-214.)

Petitioner has provided no motivation other than hindsight based only on the '125 claims.

IX. GROUND 2: CLAIMS 18, AND 20-22 WOULD NOT HAVE BEEN OBVIOUS OVER THE COMBINATION OF AIGLSTORFER AND WANG

A. Claim 18 Would Not Have Been Obvious in View of Aiglstorfer and Wang

1. Limitation 18a: "a wallet client management component configured to store and to manage a mobile wallet application"

Petitioner failed to meet its burden to show that the limitation is taught. Petitioner does not specifically identify any "wallet client management component" in the combination but appears to be saying that Aiglstorfer doesn't have one but that Wang's "application management module" might perform the functions of a

"wallet client management component." (Neuman at ¶¶ 379-384.) This is incorrect because there is no wallet disclosed in Wang and therefore no wallet client management component. (Shamos at ¶118-119, 216.) Further, in Aiglstorfer the "mobile wallet application" comes from Remote Server 130 (Paper 1 at 65), which is not part of the TSM 120. (Shamos at ¶ 216.) Even assuming that Wang's TSM functions would be performed by Aiglstorfer's TSM 120 in an Aiglstorfer-Wang combination, the first moblet (mobile wallet application) is not delivered by the TSM in Aiglstorfer. (*Id*.)

Petitioner has not shown that limitation 18a is disclosed by the combination.

2. Limitation 18b: "a widget management component configured to store and to manage widgets"

Petitioner's attempt to combine Aiglstorfer and Wang is problematic. It is unclear from the Petitioner's analysis (Neuman at ¶¶ 385-391) whether the remote server and TSM of Aiglstorfer is one unit with the TSM of Wang, the TSM of Wang substituted for the TSM of Aiglstorfer, or is the TSM of Wang somehow blended with the functions of the TSM of Aiglstorfer. (Shamos at ¶218.) This lack of clarity and analysis results from the fact that the Aiglstorfer-Wang combination is based purely on hindsight, and the two systems cannot be combined in any natural way, as discussed in Section. (Shamos at ¶¶ 218-19.) There surely are no widgets disclosed in Wang. (Shamos at ¶¶ 218.) Petitioner purports to find a "widget management

component" as a "separate storage and management location on Aiglstorfer's remote server." (Paper 1 at 67.) However, there is no indication in Aiglstorfer of any such "separate storage and management location." (Shamos at ¶ 219.) Petitioner speculates (Paper 1 at 67; Neuman at ¶390) that, because the first moblet is delivered to the MOJAX environment before the second and third moblets, "one of ordinary skill in the art would understand that the GUI "second"/"third" moblets should be stored and managed separately from the "first" moblet on Aiglstorfer's remote server 130." Petitioner offers no reason this should be true – it is certainly not implied by the fact that moblets are delivered at different times. (Shamos at ¶ 219.) Petitioner has failed to locate a "widget management component" in the combination. (Shamos at ¶ 220.)

3. Limitation 18c: "a device profile management component configured to store mobile device information"

Aiglstorfer contains no disclosure of a "device profile management component." (Shamos at ¶ 222.) There is no indication that any "device profile" is stored and certainly no indication that any "device profile" is managed in Aiglstorfer. (*Id.*) Petitioner acknowledges that Aiglstorfer does not specify where the mobile device information is stored. (Paper 1 at 67.)

Petitioner resorts to Wang to supply the missing piece. Petitioner argues that the "card management module" of Wang is the needed "device profile management

component" because the card management module stores an "operating system." (*Id.* at 67-68.) However, Wang does not disclose storing an "operating system" – it discloses storing a "card operating system," which refers to the operating system of a smart card, *e.g.*, a UICC card, not the operating system of a mobile phone, for example. There is no indication that Wang maintains any profile of the user's mobile device. (Shamos at ¶ 223.) Wang makes clear that the card management module manages "card information" (Ex. 1009 at Abstract), "card status" (Ex. 1009 at claim 4), and the card's security domain information (Ex. 1009 at 8). (Shamos at ¶ 224.) The only "management" function Wang provides is for card information. (*Id.*) Therefore, neither Wang nor Aiglstorfer discloses a "device profile management component." (*Id.*)

4. Limitation 18d: "a rule engine configured to filter a widget based on the mobile device information"

Petitioner does not identify a "rule engine" in Aiglstorfer or Wang because none exists. (Paper 1 at 68-69; Neuman at ¶¶398-403.) While Dr. Neuman alludes to some "filtering" by the test unit of Wang, there is no indication in Wang that any widgets, as opposed to applications, are tested. (Shamos at ¶ 225.) As discussed above in connection with claim limitation 11d, Wang contains no disclosure of what the "test unit" tests or on what basis it tests it. (*Id.*) There is further no indication that any supposed "filtering" is performed by a rule engine. (*Id.*)

5. Limitation 18e: "wherein said wallet management system is configured to receive the mobile device information from a mobile device and store the mobile device information in the device profile management component"

Petitioner references "device profile management component configured to store mobile device information." (Paper 1 at 69;Neuman at ¶ 404.) As explained above in the referenced limitation there is no "device profile management component" in either Aiglstorfer or Wang and Wang does not have any "wallet management system." (Shamos at ¶ 226.)

6. Limitation 18f: "wherein said wallet management system is configured to register the mobile device and the mobile wallet application in a Trusted Service Manager (TSM) system"

Petitioner argues (Neuman at ¶¶ 405-411) that Aiglstorfer discloses a wallet registry in Fig. 6D, but the wallet registry provides moblets, and therefore is located on the remote server, not the TSM. (Shamos at ¶ 227.) Aiglstorfer says at [0064]:

> Referring now to FIG. 6D, the wallet moblet in response to receiving the notification from the TSM may send a request for a card moblet to the wallet registry. In response to the request, the wallet registry may transmit the card moblet to the wallet MRE where the card moblet is installed.

The wallet registry does not reside on the TSM or the TSM would not have to notify the wallet moblet to request a moblet from the TSM. (Shamos at ¶ 228.) So there is no "registering" in the TSM. (*Id.*) Thus, Petitioner seeks to combine the functions of Aiglstorfer's remote server and its TSM. (*Id.* at ¶ 229.) But Petitioner never

presents a valid way to combine the two references. (*Id.*) This is clear by the passage above that would require the TSM to send a notification to the moblet to request another moblet from the TSM. (*Id.*) This is a consequence of the fact that Petitioner has not explained how or why the references are structured and how they can be combined. (*Id.*) Wang, for example, does not disclose wallets or wallet management (Shamos at ¶¶118-119 and 229.) Petitioner's analysis also simply pieces together two references based on the claims without showing motivation outside the claims to combine. (Shamos at ¶ 229.)

B. Claim 20 Would Not Have Been Obvious in View of Aiglstorfer and Wang

1. Claim 20: The WMS of claim 18, wherein the mobile device information comprises at least one of a mobile device type, a supporting Operating System (OS), a mobile service provider, a mobile device manufacturer, and a secure element (SE) type."

As explained in connection with claim 11, above, Petitioner has not shown that the cited combination discloses claim 18, so it cannot show that it discloses claim 20. Petitioner therefore cannot show claim 20 as a whole would have been obvious. (Shamos at ¶ 231-32.)

C. Claim 21 Would Not Have Been Obvious in View of Aiglstorfer and Wang

1. Claim 21: The WMS of claim 18, further comprising a user profile management component to capture and manage user identifying information"

Petitioner has not shown that the cited combination discloses claim 18, so it cannot show that it discloses claim 21.

Petitioner discusses the additional limitation of claim 21. (Paper 1 at 71; Neuman at ¶¶ 416-420.) Petitioner argues that the storage location in which the "user identifier" is stored in a "card information management unit" is the claimed "user profile management component" and that "while Aiglstorfer does not provide additional details regarding the form and storage location of the information sent from its mobile device that allows this to occur, Wang does…" (Paper 1 at 71.) However, a "user profile" requires a plurality of data items concerning a user as disclosed in the '125 Patent at 5:17-18 (name, address, birthday, phone number, and the like). (Shamos at ¶ 234.) Petitioner's reference to Wang's "user identifier" does not perform "user profile management." (Shamos at ¶ 234-35.) Additionally, as addressed throughout the preliminary response, there is no basis to combine Aiglstorfer and Wang.

D. Claim 22 Would Not Have Been Obvious in View of Aiglstorfer and Wang

1. Claim 22: The WMS of claim 18, wherein the WMS is hosted on the TSM system."

Petitioner has not shown that the cited combination discloses claim 18, so it cannot show that it discloses claim 22. Petitioner argues to combine Aiglstorfer's separate remote server 130 and the TSM 120 as the WMS. (Paper 7 at 2; Neuman at ¶¶ 421-424.) His explanation is inconsistent with the claim language and would render the claim language meaningless. (Shamos at ¶ 237.) Claim 22 requires the WMS to be "hosted," i.e., physically resident, on the TSM system. (*Id.*) By drawing a boundary freely around any set of components, one could always incorporate a WMS to make it appear "hosted" on a TSM system so long as both a WMS and a TSM system were present. (*Id.*) It is clear from Aiglstorfer that the WMS is *not* hosted on the TSM system and Wang does nothing to change that. (*Id.*) Figs. 1 and 2 of Aiglstorfer show that a WMS, if it exists at all, is on the Remote Server 130, not on the TSM 120. (*Id.*) Therefore, Dr. Neuman has not shown that claim 22 as a whole would have been obvious.

E. A POSITA Would Not Have Been Motivated to Combine Aiglstorfer and Wang

In Ex. 1003 at ¶¶ 425-443, Dr. Neuman explains his opinion that a POSITA would have been motivated to combine Aiglstorfer with Wang. Because the

references are the same and Petitioner repeats its analysis, the analysis applies the same for ground 2. (*See* XIII.)

X. SECONDARY CONSIDERATIONS OF NONOBVIOUSNESS

In Ex. 1003 at 443, Dr. Neuman notes that secondary considerations were not raised during prosecution. However, below are relevant secondary considerations.

A. Commercial Success

The industry has embraced the technology of the '125 Patent through use of Apple Pay, and there has been significant recognition of the technology by others. This is evidenced by, among other things, Apple's extensive adoption of the infringing technology in its products.[3]

I understand that Apple first incorporated the patented invention on or about October 20, 2014.[4] Tim Cook, CEO of Apple, believes that mobile payments is a "huge business," with $12 billion worth of daily transactions in the United States alone.[5] Apple Pay's financial statistics, which shows commercial success of the

[3] Ex. 2008, Second Amended Complaint; Ex. 2011, Preliminary Infringement Contentions Chart.
[4] Ex. 2014, Apple Press Release, "Apple Pay Set to Transform Mobile Payments Starting October 20," October 16, 2014, available at: https://www.apple.com/newsroom/2014/10/16Apple-Pay-Set-to-Transform-Mobile-Payments-Starting-October-20/
[5] Ex. 2015, Braithwaite, Tom et al., "Apple Wages War on the Wallet," September 15, 2014, available at: https://www.cnbc.com/2014/09/15/apple-wages-war-on-the-wallet.html

infringing technology as well as the nexus between their success and the patented features.

Apple Pay saw a 500% volume growth between 2015 and 2016.[6] Apple Pay's revenue amounted to $120.4 billion in 2017 and this figure is estimated to rise to $244 billion by the end of 2021.[7] Apple Pay is available in at least 30 countries, and has an active user base of over approximately 300 million.[8] Apple Pay revenue and transactions more than doubled year-over-year, with over three billion transactions in the September 2019 quarter, which exceeded competitor's number of transactions and growth by four times.[9] Apple Pay now accounts for 5% of global card transactions and that number is projected to rise to 10% of global card transactions by 2025.[10] The Federal Reserve Payments Study estimates that the total value of U.S. card transactions for 2018 was $7.08 trillion in 2018.[11] Apple accounts for

[6] Ex. 2016, Moon, Brad, "Apple In's Apple Pay Volume Skyrockets 500%," October 26, 2016, available at: https://investorplace.com/2016/10/apple-inc-aapl-apple-pay-volume-iplace/
[7] Ex. 2017, Rogers, Adams, "Apple Pay Transactions Rose Significantly in Q4 of Fiscal 2018," Nov. 27, 2018, available at: https://marketrealist.com/2018/11/apple-pay-transactions-rose-significantly-in-q4-of-fiscal-2018/
[8] *Id*.
[9] Ex. 2018, Miller, Chance, "Apple Pay Transaction Volume Growing 4x as Fast as PayPal, Tim Cook Says," October 30, 2019, available at: https://9to5mac.com/2019/10/30/apple-pay-transaction-volume-paypal/
[10] Ex. 2019, Lovejoy, Ben, "Apple Pay Revenue is Heading Toward a Multi-Billion Dollar Business," February 12, 2020, available at: https://9to5mac.com/2020/02/12/apple-pay-revenue/
[11] *Id*.

approximately 5% of those card transactions, and charges 0.15% per transaction.[12] I understand that Apple Pay's revenue is $525 million in 2018 for the United States.[13] These financial success by Apple shows commercial success and adoption of the infringing invention, which are all further evidenced by Apple's inducement of its partners and service operators, including merchants and end-users, to use Apple's products, such as the Apple Devices, in an infringing manner. Indeed, all of this shows commercial success evidenced by Apple's licenses with partners and service operators, including hundreds of banks and at least 74 out of the top 100 retailers in the United States.[14]

B. The invention diverged from the technical direction followed by those skilled in the art and filled a long-felt but unsatisfied need.

I understand from counsel that evidence of a long felt but unsolved need that is met by the claimed invention is relevant evidence of non-obviousness. As addressed in detail above in the '125 patent overview, the '125 patent disclosed numerous drawbacks of then existing mobile wallet technology and disclosed claimed improvements to the then-existing mobile wallets.

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[12] *Id*.; see also Ex. 2020, Financial Alchemist, "Apple Pay Revenue Estimates and Future Potential," April 25, 2019, available at: https://financial-alchemist.blogspot.com/2019/04/apple-aapl-apple-pay-revenue-estimates.html

[13] *Id*.

[14] Ex. 2021, Murphy, Mike, " Apple Pay is a Sleeper Hit," January 22, 2019, available at: https://qz.com/1799912/apple-pay-on-pace-to-account-for-10-percent-of-global-card-transactions/

C. Copying

I understand that the '125 patent has been cited as prior art in multiple Apple patents including US 10,218,719, US 8,843,125, and US 8,838,174. Apple was aware and incorporated the '125 inventions into its products.

D. Acquiescence and Licensing

Evidence of licensing supports the nonobviousness of the '125 patent. Mozido (now Fintiv) acquired CoreFire in late 2014 and all of its intellectual property, including the '125 patent, demonstrating the desirability of the '125 patent. (*See, e.g.*, Ex. 2013, Mozido Adds Big Piece to Its Mobile-Pay Puzzle with CorFire Purchase (Dec. 18, 2014), available at https://www.paymentssource.com/news/mozido-adds-big-piece-to-its-mobile-pay-puzzle-with-corfire-purchase.

E. Skepticism

The '125 Patent also addresses skepticism of others that the invention approach would work. Here, two of the references identified in the IPR grounds, Wang and Buhot, include disclosures that show skepticism of the '125 invention. Wang acknowledged that TSM platform research was at its initial stage and the questions of how to effectively design the internal structure, provide them with good modularity and scalability required further research. (Ex. 1009 at 4.) Buhot also acknowledged the difficulties for a user to manage standalone NFC application

elements and that the number of NFC services and application element providers increase. (Ex. 1005 at [0019].) Buhot also acknowledges that modifying contactless application elements for interoperability or interfacing with other elements or OTA provisioning would require application element providers to modify the reference application elements to support these services, but that it would involve extra cost, new code baseline, new deployment, and new certification processes. (*Id.* at [0020].) These references confirm that implementing a TSA and interfacing with elements in mobile payments and OTA was not simple. The references teach away from the '125 invention and demonstrate that the IPR is based on improper hindsight.

XI. CONCLUSION

For the foregoing reasons, the Petition should be denied.

Respectfully Submitted,

Date: February 15, 2020

By: */s/ Jonathan K. Waldrop*

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24, the undersigned certifies that the foregoing *Patent Owner's Preliminary Response* contains 14,945 words excluding a table of contents, a table of authorities, mandatory notices under § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing. Patent Owner has relied on the word count feature of the word processing system used to create this paper in making this certification.

Dated: February 15, 2020

/s/ Jonathan K. Waldrop
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CERTIFICATE OF SERVICE

I hereby certify that on February 15, 2020, I caused a true and correct copy of the foregoing *Patent Owner's Preliminary Response* to be served via electronic mail upon the following counsel of record for Petitioner:

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