

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

**SAMSUNG ELECTRONICS CO., LTD., and
SAMSUNG ELECTRONICS AMERICA, INC.,**

Petitioners,

v.

ICASHE, INC.,

Patent Owner.

Case IPR2025-00643
Patent No. 9,202,156

PETITION FOR *INTER PARTES* REVIEW

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EXHIBIT LIST

Exhibit No.	DESCRIPTION
1001*	U.S. Patent No. 9,202,156 (“156”)
1002*	File History of U.S. Application No. 14/747,770 (“156FH”)
1003*	Declaration of Henry Dreifus in Support of Petition for <i>Inter Partes</i> Review of U.S. Patent. No. 9,202,156 (“Dreifus”)
1004	U.S. Patent App. Pub. 2011/0240748 (“Doughty-CON”)
1005	U.S. Patent App. Pub. 2004/0133787 (“Doughty”)
1006	U.S. Patent No. 11,270,174 (“174”)
1007	File History of U.S. Application No. 17/021,347 (“174FH”)
1008	Redline Between Doughty and Doughty-CON
1009	U.S. Patent No. 5,943,624 (“Fox”)
1010-1027	<i>Reserved</i>
1028	U.S. Patent App. Pub. 2006/0017626 (“Kannan”)
1029	U.S. Patent No. 6,400,965 (“Phillips”)
1030	U.S. Patent No. 4,877,947 (“Mori”)
1031	U.S. Patent App. Pub. 2004/0235450 (“Rosenberg”)
1032	U.S. Patent No. 5,466,919 (“Hovakimian”)
1033-1049	<i>Reserved</i>
1050	Docket Control Order, <i>iCashe, Inc. v. Samsung Electronics Co.</i> , No. 2:24-cv-00429-JRG (E.D. Tex.)
1051	Docket Control Order, <i>Valtrus Innovations Ltd. v. NTT Data Services, LLC</i> , No. 2:24-cv-00361, (E.D. Tex.)
1052	Docket Control Order, <i>Fleet Connect Solutions LLC v. The Kroger Co.</i> , No. 2:24-cv-00430 (E.D. Tex.)

U.S. Patent No. 9,202,156
Petition for *Inter Partes* Review

Exhibit No.	DESCRIPTION
1053	Docket Control Order, <i>C47 Technologies LLC v. TCL Technology Group Corporation f/k/a TCL Corporation</i> , No. 2:24-cv-00417 (E.D. Tex.)
1054	Docket Control Order, <i>SiOnyx, LLC v. Samsung Electronics, Co., Ltd.</i> , No. 2:24-cv-00408 (E.D. Tex.)
1055	Docket Control Order, <i>Stingray IP Solutions LLC v. Allegion Public Limited Company</i> , No. 2:24-cv-00396 (E.D. Tex.)
1056	Docket Control Order, <i>ElectraLED, Inc. v. Astera LED Technology GmbH</i> , No. 2:24-cv-00512 (E.D. Tex.)
1057	Docket Control Order, <i>Alto Dynamics, LLC v. Fresha.com SV Ltd.</i> , 2:24-cv-00468 (E.D. Tex.)
1058	Docket Control Order, <i>Cloud Byte LLC v. Dell Inc.</i> , No. 2:24-cv-00637 (E.D. Tex.)
1059	September 20, 2024 Production Letter in <i>iCashe, Inc. v. Samsung Electronics Co.</i> , No. 2:24-cv-00429-JRG (E.D. Tex.)
1060	December 12, 2024 Production Letter in <i>iCashe, Inc. v. Samsung Electronics Co.</i> , No. 2:24-cv-00429-JRG (E.D. Tex.)
1061*	Declaration of Cheryl Sloane in Support of Petition for <i>Inter Partes</i> Review of U.S. Patent No. 9,202,156
Petitioners have used the same exhibit number to refer to the same document across IPR2025-00642, -00643, -00643, -00644, and -00645, except for those exhibits designated by an *, which indicates that the exhibit is unique to each IPR proceeding.	

TABLE OF ABBREVIATIONS

Abbreviation	DESCRIPTION
'156	U.S. Patent No. 9,202,156 (“’156”) (Ex.1001)
'156FH	File History of U.S. Application No. 14/747,770 (Ex.1002)
'174	U.S. Patent No. 11,270,174 (“’174”) (Ex.1006)
'174FH	File History of U.S. Application No. 17/021,347 (Ex.1007)
Claims / Challenged Claims	Claims 1-5, 8-12 of the '156
IPR	<i>Inter Partes</i> Review
Petitioners	Petitioners Samsung Electronics Co. Ltd. and Samsung Electronics America Inc.
PO	Patent Owner
POSITA	Person of Ordinary Skill in the Art
PTAB	Patent Trial and Appeal Board
USPTO	United States Patent and Trademark Office

LIST OF CHALLENGED CLAIMS

[1.pre] A mobile device comprising:

[1.a] circuitry to produce a time-varying magnetic field that mimics a swipe of a magnetic card;

[1.b] a memory to hold transaction data; and

[1.c] a processor coupled to the circuitry to cause the circuitry to produce a time-varying magnetic field that represents the transaction data;

[1.d] wherein the mobile device comprises a mobile phone.

[2] The mobile device of claim 1 wherein the time-varying magnetic field mimics a swipe of a magnetic credit card.

[3] The mobile device of claim 1 wherein the transaction data comprises financial data.

[4] The mobile device of claim 3 wherein the financial data comprises credit card data.

[5] The mobile device of claim 1 further comprising smartcard circuitry coupled to the memory and the processor.

[8] The mobile device of claim 1 wherein the time-varying magnetic field is used to perform point-of-sale transactions.

[9.pre] A mobile device comprising:

[9.a] circuitry to produce a time-varying magnetic field that mimics a swipe

of a magnetic card;

[9.b] smartcard circuitry for performing transactions; and

[9.c] a processor coupled to the smartcard circuitry and the circuitry to produce a time-varying magnetic field;

[9.d] wherein the mobile device comprises a mobile phone.

[10] The mobile device of claim 9 wherein the smartcard circuitry is configured to perform point-of-sale transactions.

[11] The mobile device of claim 9 wherein the transactions are financial transactions.

[12] The mobile device of claim 9 wherein the time-varying magnetic field mimics a swipe of a magnetic credit card.

Pursuant to §§311-319 and §42.1,¹ Samsung Electronics Co. Ltd. and Samsung Electronics America Inc. (“Petitioners”) respectfully petition for *inter partes* review of claims 1-5 and 8-12 (“Claims”) of U.S. Patent No. 9,202,156 (Ex.1001, “’156”). There is a reasonable likelihood—and it is highly likely—that at least one challenged claim is unpatentable as explained herein. Petitioners request review of the Claims and judgment finding them unpatentable under §§102 and 103.

I. INTRODUCTION

The ’156’s purported invention is a mobile phone that mimics a swipe of a magnetic card (e.g., credit card) by producing a time-varying magnetic field that represents transaction data (e.g., credit card data). ’156, 2:65-3:5, 3:51-61, 4:60-5:7, 13:22-27, claims 1, 8. But these concepts were already known in the art as the USPTO already recognized during prosecution of a continuation of the ’156 patent—U.S. Application No. 17/021,347 (“the ’347-App.”), which issued as U.S. Patent No. 11,270,174 (Ex.1006, “’174”). During prosecution of the ’174, the Examiner rejected claims directed to this same subject matter over Doughty-CON

¹ Section cites are to 35 U.S.C. or 37 C.F.R. as context indicates. All emphasis/annotations added unless noted. Figure annotations herein generally quote the Claims for reference. Citations herein are exemplary and not meant to be limiting.

(Ex.1004), which is a continuation of and has substantially the same disclosures as **Doughty** (Ex.1005)—a prior art reference relied upon in this Petition.² Ex. 1003 (“Dreifus”) ¶¶40-41.

According to the ’174 Examiner, Doughty-CON (and thus **Doughty**) discloses a “mobile phone” with “memory to hold transaction data,” circuitry “producing a time-varying magnetic field that represents the transaction data,” and “a processor coupled to” the circuitry. ’174FH (Ex.1007), 1454, 1457. For example, as the Examiner found, Doughty-CON (and thus **Doughty**) discloses a “telecommunications device” with memory 312, magnetic field generator 308—which includes “control circuit 554” that produces “emulated time-varying magnetic stripe data” used to “emulat[e] the swipe of a magnetic stripe through the magnetic card reader”—and “device processor 314,” coupled together. Ex.1007, 1454, 1457; Doughty-CON, [0009], [0046], [0051], Figs. 3 (elements 308, 312, 314), 5B (element 554). In response to these rejections by the Examiner during prosecution of the ’174, the Applicant did not dispute these disclosures, but instead amended the claims to recite limitations that do not appear in the ’156 Claims. Ex.1007 1517-19,

² As discussed below in §V.2, the differences between **Doughty** and Doughty-CON are immaterial to the Examiner’s analysis during prosecution of the ’347-App. Dreifus ¶¶53-65.

1539, 1544-45. Dreifus ¶42.

Just like Doughty-CON, **Doughty** discloses each limitation of the '156 Claims and at minimum renders them obvious alone and in view of **Fox**. Accordingly, Petitioners request that the Board institute trial and find the Claims unpatentable. Dreifus ¶¶43-44.

II. MANDATORY NOTICES UNDER 37 C.F.R. §42.8

A. Real Party-in-Interest

Petitioners Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc. are the real parties-in-interest. No other party had access to or control over the present Petition, and no other party funded or participated in preparation of the present Petition.

B. Related Matters

The '156 is the subject of the following co-pending civil action:

iCashe, Inc. v. Samsung Elecs. Co., 2:24-cv-00429 (E.D. Tex.) filed June 6, 2024 (“Texas Case”).

Petitioners have also filed petitions for IPR of the related U.S. Patents 8,403,219 (IPR2025-00642), 9,208,423 (IPR2025-00644) and 11,270,174 (IPR2025-00645).

C. Lead and Back-Up Counsel

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Petitioners consent to electronic service of documents to the email addresses of the counsel identified above.

III. PAYMENT OF FEES

The undersigned authorizes the Office to charge the fee required by §42.15(a) and any additional fees that might be due to Deposit Account No. 18-1945, under Order No. 110797-0057-653.

IV. REQUIREMENTS FOR *INTER PARTES* REVIEW

A. Grounds for Standing

Pursuant to §42.104(a), Petitioners certify the '156 is available for IPR. Petitioners and any real parties-in-interest are not barred or estopped from requesting IPR challenging the Claims on the grounds identified herein.

B. Identification of Challenge

Pursuant to §§42.104(b) and (b)(1), Petitioners request IPR of the Claims and that the Board cancel the same as unpatentable.

1. The Specific Art on Which the Challenge Is Based

Petitioners rely upon the following art (Dreifus ¶¶72-75):

Name	Ex.	Publication	Filed	Published/ Issued	Prior art under at least
Doughty	1005	US2004/0133787	10/7/2003	7/8/2004	§§102(a)/ 102(e)
Fox	1009	US5,943,624	7/15/1996	8/24/1999	§§102(a)/ 102(b)/ 102(e)

Each of the above references is prior art to the Claims based on the 2/22/2005 filing date of App. No. 11/063,291 listed in the '156's priority claim.

2. Statutory Grounds on Which the Challenge Is Based

Ground	Claim(s)	Basis	References
1	1-5, 8-12	§102/§103	Doughty
2	1-5, 8-12	§103	Doughty in view of Fox

V. '156 PATENT AND PROSECUTION HISTORY

A. '156

The specification of the '156 discusses an “intelligent electronic device” (e.g., “mobile phone”) that internally communicates with an “electronic transaction card.” '156, Abstract, 2:15-21, 2:15-34. The electronic transaction card “may be programmed to operate as a credit card” such that it “emit[s] one or more time-varying magnetic fields to emulate the swiping of a credit card.” '156, 4:60-66, 3:53-55, 10:52-64. “Electronic transaction card 104 may then be used with a magnetic stripe or smartcard based merchant point-of-sale terminal to effect a transaction.” '156, 3:55-58. According to the '156, “the term ‘transaction’ refers to any beneficial use of an electronic transaction card.” '156, 3:39-40. Dreifus ¶45.

As shown in Figure 22, the electronic transaction card includes **processing element 2020** coupled to “**magnetic/smartcard circuitry 2030**,” which “may include **circuits to produce time-varying magnetic fields** or **signals compatible with a smart card reader**.” '156, 11:5-7, 11:47-12:2, Figs. 20, 22. The electronic transaction device also includes “**volatile memory 2220**” storing “financial transaction data 2222.” '156, Fig. 22, 11:52-58. The **magnetic/smartcard circuitry 2030** is **coupled to** the **volatile memory 2220** via the **processing element 2020** as shown in Fig. 22. '156 patent, 11:5-7, 11:47-12:2; Dreifus ¶46.

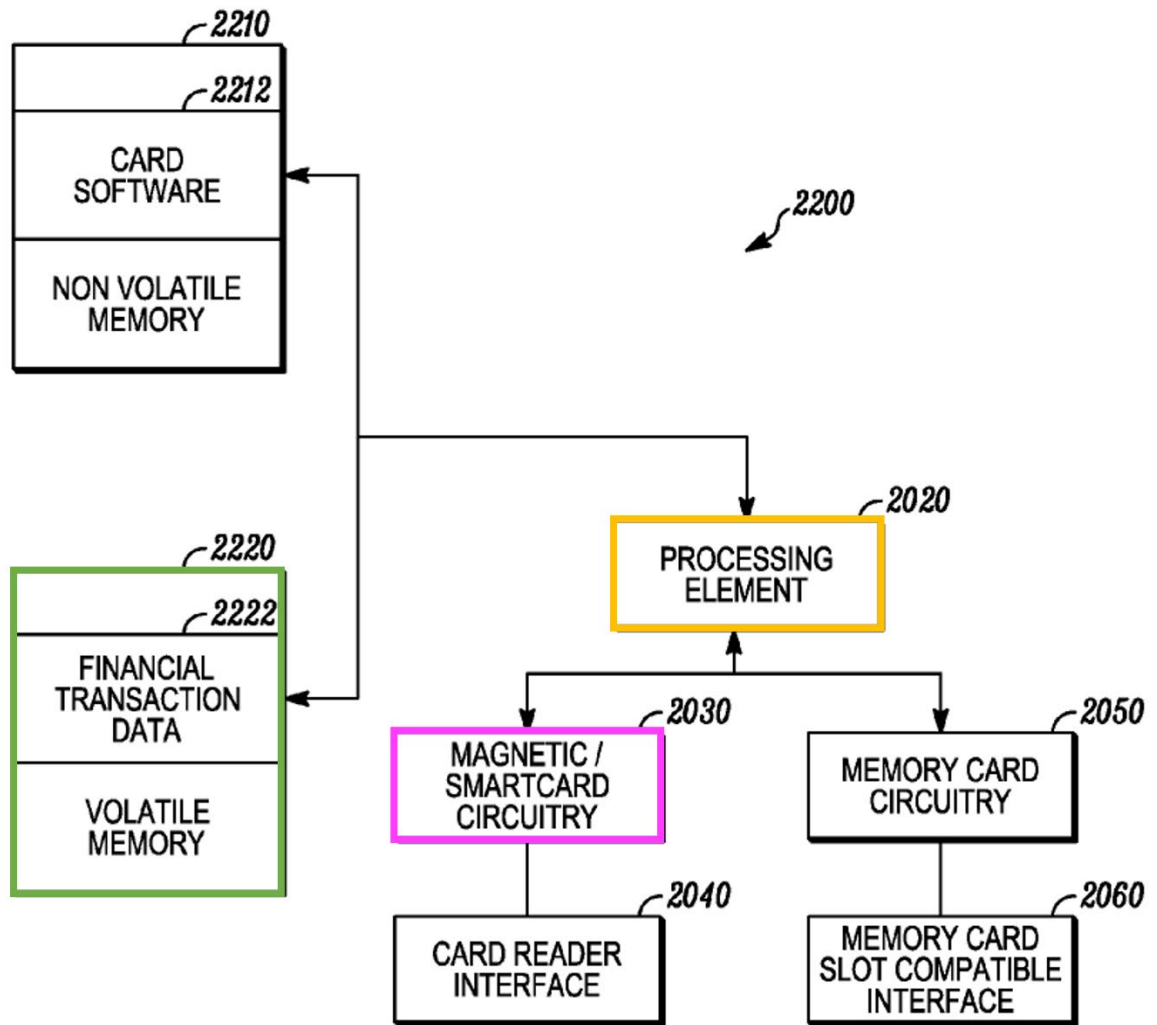


FIG. 22

The '156 discloses in another embodiment that a “processing device” “may read instructions from volatile memory 310 and/or nonvolatile memory 306 and perform actions in response thereto” and “execute program instructions that influence communications between” the device and “a magnetic card reader.” ’156, 6:29-43. Dreifus ¶47.

B. Prosecution History

1. '156 Prosecution

The '156 issued from U.S. Pat. App. 14/747,770 (“the '770-App”), filed 6/23/2015. The as-filed claims were initially rejected as unpatentable based on both statutory and non-statutory double patenting rejections over a parent patent (U.S. Patent No. 9,092,708). Ex.1002, 1547-50 (Office Action). To overcome the statutory double patenting rejection, the Applicant amended the claims to recite that “the mobile device comprises a mobile phone.” *Id.*, 1543-44, 1559. A terminal disclaimer was also filed to overcome a statutory double patenting rejection over a parent patent. *Id.*, 1551-53, 1559. Thereafter, the pending claims were allowed. *Id.*, 1574-76, 1579. No substantive prior art rejection was issued during prosecution of the '156. Dreifus ¶¶48-49.

2. '174 Prosecution

The '156 claims overlap extensively with the claims of the '347-App, which flows from a line of continuations from the '156. '174 (Ex.1006), 1:7-44. During prosecution of the '347-App, the Examiner found that Doughty-CON anticipated identical and/or very similar limitations to the challenged claims of the '156. Ex.1007, 1454-57. To overcome the Examiner’s anticipation rejection based on Doughty-CON, the Applicant amended the claims of the '347-App to recite a “network interface” limitation—which is not present in any of the '156 Challenged

Claims—to secure allowance. *Id.*, 1517-19, 1539, 1544-45 (amending claims to recite “a network interface for connecting the mobile phone to a network, wherein one or more parts of the transaction data are downloadable to the mobile phone via the network”). Dreifus ¶50.

While there are some minor differences in disclosure between Doughty-CON and **Doughty**, any substantive differences are not relevant to the material the Examiner identified as meeting limitations of the claims of the '347-App. Ex.1008. Dreifus ¶51, 53-65.

The below chart compares language of the challenged '156 Claims with identical or substantially identically claim limitations that were found by the Examiner to be disclosed by Doughty-CON during prosecution of the '347-App, including the cited portions of Doughty-CON upon which the Examiner relied.³ Dreifus ¶52.

³ While the limitations of [5], [9.b] and [10] of the '156, along with certain language of the '156 limitations identified by ellipses in the chart below do not have corresponding language in the '347-App, **Doughty** discloses these limitations as explained below in §IX. Dreifus ¶52.

'156 Challenged Claims	'347-App	Doughty-CON (Disclosure Relied Upon By Examiner)⁴
[1.pre] A mobile device comprising:	[1.pre] A mobile phone comprising:	Doughty-CON [0046]
[1.a] circuitry to produce a time-varying magnetic field that mimics a swipe of a magnetic card;	[1.b] current carrying conductor capable of producing a time-varying magnetic field...; [5] The mobile phone of claim 1 wherein the time-varying magnetic field emulates a swipe of a magnetic card.	Doughty-CON Fig. 3, 308 (“Magnetic Field Generator”); [0051]
[1.b] a memory to hold transaction data;	[1.a] a memory to hold transaction data...;	Doughty-CON Fig. 3, 312 (“Memory”); [0009]
[1.c] a processor coupled to the circuitry to cause the circuitry to produce a time-varying magnetic field that represents the transaction data;	[1.b] current carrying conductor capable of producing a time-varying magnetic field that represents the transaction data...; [1.c] a driver to excite the current carrying conductor; [1.d] a processor coupled to control the driver.	Doughty-CON Fig. 3, 308 (“Magnetic Field Generator”), 314 (“Device Processor or Controller”); Fig. 5B, 554 (“Control Circuit”); [0051]
[1.d] wherein the mobile device comprises a mobile	[1.pre] A mobile phone comprising:	Doughty-CON [0046]

⁴ The same paragraphs numbers and figure numbers in **Doughty** have identical or substantively identical disclosures as the paragraphs and figures in Doughty-CON cited by the Examiner as identified in this chart. Dreifus ¶52.

phone.		
[2] The mobile device of claim 1 wherein the time-varying magnetic field mimics a swipe of a magnetic credit card.	[4] The mobile phone of claim 1 wherein the time-varying magnetic field represents a credit card transaction. [5] The mobile phone of claim 1 wherein the time-varying magnetic field emulates a swipe of a magnetic card.	Doughty-CON [0008], [0038], [0051]
[3] The mobile device of claim 1 wherein the transaction data comprises financial data.	[4] The mobile phone of claim 1 wherein the time-varying magnetic field represents a credit card transaction.	Doughty-CON [0008], [0038]
[4] The mobile device of claim 3 wherein the financial data comprises credit card data.	[4] The mobile phone of claim 1 wherein the time-varying magnetic field represents a credit card transaction.	Doughty-CON [0008], [0038]
[8] The mobile device of claim 1 wherein the time-varying magnetic field is used to perform point-of-sale transactions	[2] The mobile phone of claim 1 wherein the time-varying magnetic field represents a point-of-sale transaction.	Doughty-CON [0008], [0095]-[0097]
[9.pre] A mobile device comprising:	See above analysis corresponding to '156, [1.pre]	
[9.a] circuitry to produce a time-varying magnetic field that mimics a swipe of a magnetic card;	See above analysis corresponding to '156, [1.a]	
[9.c] a processor coupled to...the circuitry to produce a time-varying magnetic field;	See above analysis corresponding to '156, [1.c]	
[9.d] wherein the mobile device comprises a mobile phone.	See above analysis corresponding to '156, [1.d]	
[11] The mobile device of	[2] The mobile phone of claim	Doughty-CON

claim 9 wherein the transactions are financial transactions.	1 wherein the time-varying magnetic field represents a point-of-sale transaction. [4] The mobile phone of claim 1 wherein the time-varying magnetic field represents a credit card transaction.	[0008], [0038], [0095]-[0097]
[12] The mobile device of claim 9 wherein the time-varying magnetic field mimics a swipe of a magnetic credit card.	See above analysis corresponding to '156, [2].	

Ex.1007, 1454-1457. Dreifus ¶¶52-65.

VI. §325(d) AND §314(a) DISCRETION DOES NOT APPLY

A. §325(d)

There is no basis for discretionary denial under §325(d). The references relied upon in this Petition—**Doughty** and **Fox**—were not applied to reject claims during the '156's prosecution or otherwise explicitly identified by the Examiner. *See generally* '156FH. While Applicant identified **Doughty** in an IDS, the Examiner did not substantively discuss **Doughty** in any prior art rejection. *Id.*, 1324, 1520; *Sony Grp. Corp. v. MZ Audio Scis., LLC*, No. IPR2022-01544, Pap. 12, *7 (§325(d) discretion improper where “Examiner did not consider the specific combination of references asserted”). The Examiner also never considered the testimony of Petitioners' expert Henry Dreifus (Ex.1003) regarding the scope and content of **Doughty** and **Fox**. Dreifus ¶¶76-159.

Furthermore, the Examiner particularly “erred in a manner material to the patentability of the challenged claims” in not recognizing the disclosure of **Doughty**. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, No. IPR2019-01469, Pap. 6, *8 (precedential) (establishing two-part framework for addressing 35 U.S.C. § 325(d)). As discussed above in §V.B.2, claims of the ’347-App with limitations substantially similar to the ’156 claims were rejected in view of Doughty-CON (which has substantively identical disclosures to **Doughty**). Given the similarity of the rejected ’347-App claims to those of the ’156 claims, the Examiner’s failure to fully consider **Doughty** and address whether it discloses or teaches the subject matter of the ’156 claims constitutes material error under step two of the *Advanced Bionics* framework. *See Edwards Lifesciences Corp. v. Aortic Innovations, LLC*, No. IPR2021-01584, Pap. 15, *28 (finding “that the Examiner materially erred during prosecution by failing to fully consider the prior art teachings” where, although two prior art references “were presented to the Examiner, the Examiner did not issue *any* rejections during prosecution based on that prior art despite teachings that are closely related to the subject matter and claims” of the challenged patent (emphasis in original)); *see Oticon Med. AB v. Cochlear Ltd.*, No. IPR2019-00975, Pap. 15, *19-20 (§325(d) discretion improper where the Examiner erred in prosecution by not “consider[ing]” or being “aware of [a prior art reference’s] teachings”).

In *Edwards*, despite finding all of petitioner’s references were the same or substantially the same as prior art previously presented to the office, the Board declined to deny institution under §325(d), finding the examiner had “materially erred during prosecution by failing to fully consider the prior art teachings.” *Edwards* at 26-28. In particular, for two references that were cited to the examiner during prosecution—one of which was used as the primary reference for ten of petitioner’s grounds, *id.*, 11—the Board highlighted that the “Examiner did not issue *any* rejections during prosecution based on that prior art despite teachings that are closely related to the subject matter and claims.” *Id.*, 28 (emphasis in original).

Here, the Examiner’s failure to fully consider **Doughty** during prosecution of the ’156 is akin to the material error in *Edwards*, such that no rejections were issued under prior art considered by the examiner despite having sufficient disclosures to be a primary reference in an IPR ground. That a later Examiner did recognize that Doughty-CON discloses much of the same limitations of the ’347-App that **Doughty** discloses for the ’156 only emphasizes this error.⁵ Applicant did not dispute that Doughty-CON disclosed these limitations, but instead distinguished Doughty-CON by amending the claims to recite a new “network interface” limitation not present in the ’156 Claims. Ex.1007, 1517-19 (adding “a network interface for connecting the

⁵ Compare ’347-App with ’156 cover.

mobile phone to a network, wherein one or more parts of the transaction data are downloadable to the mobile phone via the network”). In this regard, the Examiner’s failure to recognize these teachings of **Doughty** during the ’156’s prosecution is unsurprising, as the Examiner considered over 325 references. Ex.1002, 1506-1536.

Accordingly, the Board should not deny institution under 35 U.S.C. § 325(d).

B. §314(a)

Co-pending district court litigation pending in the Eastern District of Texas also does not warrant the exercise of discretion under §314(a). *See Apple Inc. v. Fintiv, Inc.*, No. IPR2020-00019, Pap. 11 (designated precedential).

Factor 1 weighs in favor of institution. Petitioners intend to seek a stay of the district court litigation pending the outcome of this IPR, along with other IPRs related to the litigation dispute. At the time of institution, it is highly unlikely that the Court will have conducted a *Markman* hearing, which is currently scheduled for October 28, 2025. Ex. 1050, 3.

The Eastern District of Texas has routinely granted stays prior to claim construction, noting such cases have “not reached such an advanced stage that it would weigh against a stay.” *Broadphone LLC v. Samsung Elecs. Co.*, No. 2:23-CV-00001-JRG-RSP, 2024 WL 3524022, at *2-3 (E.D. Tex. July 24, 2024) (granting stay where “significant amount of discovery remains, the claim construction hearing has not occurred, and trial is currently set for [over six months

later]”). Even in cases that are far more advanced, the Eastern District of Texas has granted stays where an IPR has been instituted, recognizing “the PTAB’s insight and expertise ‘is likely to be of considerable assistance to the Court.’” *Onpoint Sys., LLC v. Protect Animals With Satellites, LLC*, No. 4:20-CV-657, 2022 WL 2704166, at *3-4 (E.D. Tex. July 12, 2022) (citation omitted) (granting stay even where “no dispute that this case is in an advanced stage”); *see also Cywee Grp. Ltd. v. Samsung Elecs. Co.*, No. 17-CV-00140, 2019 U.S. Dist. LEXIS 144149, at *19-22 (E.D. Tex. Feb. 14, 2019) (granting stay three months prior to scheduled trial date) (collecting cases where the court granted stays despite trial being four or fewer months away). Given the uncertainty of whether the district court will grant a stay in the litigation, this factor does not favor denial of institution.

To the extent the Board finds that **Factors 2 and 3** are neutral or at most weigh slightly against institution, they deserve little weight given Samsung’s diligence in preparing and filing this Petition. *Markman* briefing has not commenced; fact discovery is in its infancy (Ex. 1050, 4), with iCashe producing fewer than 250 pages beyond their patents, prosecution histories, and other public documents (Exs. 1059-60 (fewer than 11,200 pages total)); and no experts have prepared reports (Ex. 1050, 3). *See Apple v. Parus Holdings, Inc.*, No. IPR2020-00686, Pap. 9, *15–17 (aside from initial invalidity contentions, finding “no other significant investment” where no dispositive motions, expert reports, or *Daubert* challenges occurred). Moreover,

although trial is currently set for April 6, 2026, Petitioners expect the district court litigation will be delayed because twelve other active cases are also scheduled for trial on that same date and six of those were filed prior to this litigation. Exs. 1050-58; *see Boe Tech. Grp. Co. v. Optronix Scis. LLC*, No. IPR2024-01130, 2025 WL 305477, at *4 (P.T.A.B. Jan. 27, 2025) (*Fintiv* factor 2 “neutral or weigh[s] slightly in favor of not exercising discretion” where Judge Gilstrap “set 10 cases for jury selection on the same day”). The district court has also not issued any substantive orders, including any related to the validity of the ’156.

Petitioners’ diligence averts parallel, duplicative proceedings, and any unfair costs to Patent Owner. *Sotera Wireless, Inc. v. Masimo Corp.*, No. IPR2020-01019, Pap. 12, *16-17 (precedential as to § II.A); *Apple Inc. v. Maxell, Ltd.*, No. IPR2020-00204, Pap. 11, *16 (refusing to exercise discretionary denial even where trial would be complete nine months before FWD will issue, district court had already issued claim construction order, fact discovery had closed, and expert discovery was underway); *Lego Sys., Inc. v. Mq Gaming LLC*, No. IPR2020-01445, 2021 WL 606917, at *8 (P.T.A.B. Feb. 16, 2021) (granting institution where trial expected to occur “five months before a final written decision,” because outweighed by “low” “investment by the court and parties in the [parallel case] on issues common to this proceeding,” Petitioner’s *Sotera* stipulation “that allays concerns about inefficient duplication of resources and the potential for inconsistent decisions,” and “the merits

of the Petition are strong”); *CoolIT Sys., Inc., v. Asetek Danmark A/S*, No. IPR2021-01195, Pap. 10, *9-14 (instituting where district court trial was expected to occur five months before Board’s decision, and narrower Sand stipulation filed).

Importantly, fairness considerations weigh in favor of institution under *NHK*. *Fintiv*, Pap. 11, at 11 (“[E]vidence...that the petitioner filed the petition expeditiously...weigh[] against exercising the authority to deny institution under *NHK*.”). iCashe has asserted multiple patents against Samsung. Samsung diligently investigated and assessed its options for challenging those patents (including the ’156) and had a right to do so before the statutory deadline for pursuing IPR expired. §315(b); *see also Lego*, 2021 WL 606917, at *5 (finding no delay supporting discretionary denial even where invalidity contentions had been served nearly a year prior, recognizing “preparing a petition for *inter partes* review requires substantial effort even after the references and basic theories have been identified”). This right should not be violated. iCashe’s selection of a venue with an expedited trial schedule should not be rewarded at the expense of Samsung’s rights to pursue review within one year of service of the complaint.

Factor 4 weighs strongly in favor of institution. Upon institution of this IPR proceeding, Petitioners stipulate that, they will not pursue in *iCashe, Inc. v. Samsung Elecs. Co.*, No. 2:24-cv-00429 (E.D. Tex. filed June 6, 2024), the grounds of invalidity asserted in the IPR, or any other ground that was raised or could have

reasonably been raised in the IPR with respect to the Challenged Claims. *Sotera*, Pap. 12, at 19 (finding “stipulation here mitigates any concerns of duplicative efforts...as well as concerns of potentially conflicting decisions” and “ensures that an *inter partes* review is a ‘true alternative’ to the district court proceeding”); *Lego*, 2021 WL 606917, at *6 (“[F]actor weighs strongly against discretionary denial” where “Petitioner has agreed to be bound by the same stipulation as in *Sotera*”).

Factor 5 is either neutral or weighs at most only slightly against institution. Petitioners and Patent Owner are the same parties in the district court litigation. While the overlapping parties may weigh slightly in favor of exercising discretion, institution and a public trial record of the important invalidity grounds in the Petition will reduce issues for the public, including all parties besides Samsung who may in the future be subject to litigation involving the ’156.

Factor 6 weighs strongly in favor of institution. The Petition is strong and presents compelling unpatentability arguments that were not previously considered during prosecution. The primary reference, **Doughty**, discloses all aspects of the arrangement and components of the claimed smartcard circuitry, and thus anticipate the claims. Indeed, as described in §V.B.2, **Doughty** is substantively identical to Doughty-CON, which an Examiner relied upon to reject nearly identical limitations of a continuation of the ’156 Patent. Dreifus ¶¶53-65. In response to this rejection, the applicants did not dispute these limitations are disclosed in Doughty-CON, and

instead added additional limitations that are not present in the claims of the '156. There is also nothing inventive in the dependent claims. The claimed features in the dependent claims are explicitly disclosed in Doughty—for example, transaction data comprising financial data, smartcard circuitry coupled to the memory and the processor, and use of a time-varying magnetic field to perform point-of-sale transactions. *See* §IX. Dreifus, ¶¶50-52, 76-155. There is a significant public interest against “leaving bad patents enforceable.” *Thryv, Inc v. Click-ToCall Techs., LP*, 590 U.S. 45, 55 (2020). Accordingly, the Board should not exercise its discretion to deny institution. §314(a).

VII. LEVEL OF ORDINARY SKILL IN THE ART

On or before the claimed priority date of 2/22/2005, a person of ordinary skill in the art (“POSITA”) would have at least a Bachelor’s degree in electrical engineering, computer engineering, computer science, or the equivalent thereof, and approximately two years of professional experience in the field of electronic devices used for transactions. Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education. Dreifus ¶¶66-69.

VIII. CLAIM CONSTRUCTION

Claim terms subject to IPR are to be construed according to the *Phillips* standard applied in district court. §42.100(b). Petitioners apply the plain and

ordinary meanings of terms. Dreifus ¶¶70-71. Only terms necessary to resolve the controversy must be construed.

IX. GROUNDS OF UNPATENTABILITY

This Petition is supported by the Declaration of Henry Dreifus, which describes the prior art's scope and content at the time of the '156. Dreifus ¶¶1-165.

Although the '156 purports to have invented the concept of using a mobile phone to perform transactions by producing a time-varying magnetic field that mimics the swipe of a magnetic card, such a system was already known. For example, **Doughty** describes a user device, such as a “telecommunications device,” having a magnetic field generator that can create a “time-varying magnetic signal” for “emulating data obtained from swiping a magnetic stripe card through a magnetic card reader.” Doughty, Abstract, [0046]. Moreover, **Fox** further discloses implementing circuitry to generate a time-varying magnetic field for transactions in a “cellular telephone.” Fox, 5:1-12. As demonstrated below, the prior art renders the Claims unpatentable. Dreifus ¶¶76-155.

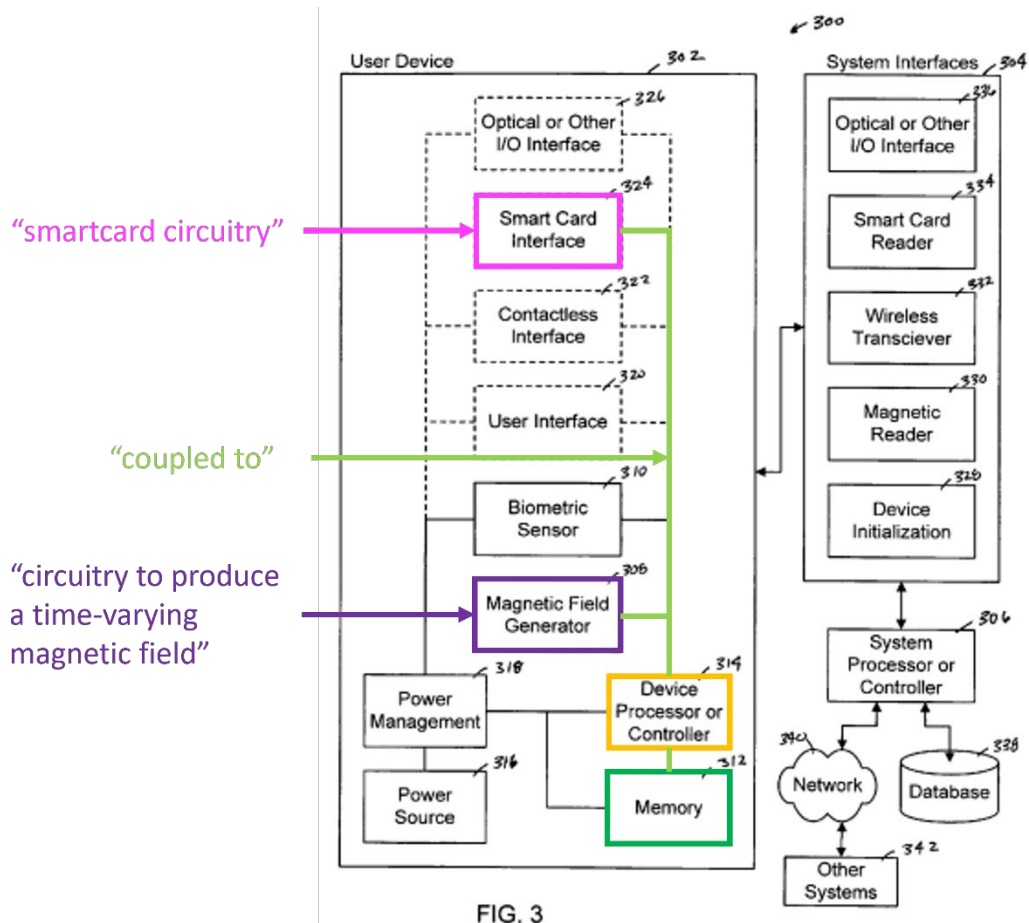
A. Ground 1: Doughty (Claims 1-5, 8-12)

1. Overview of Doughty

Doughty discloses a user device 302 mounted on a substrate that is incorporated into a mobile device such as a “telecommunications device.” [0046]. User device 302 “can be used to enable any type of transaction” such as “an access

transaction,” “a financial transaction,” or “a commercial transaction,” including a transaction with a “point of sale device.” Doughty, [0054], [0098]. The disclosed commercial transactions may include credit card transactions. Doughty [0038]. Dreifus ¶78.

As shown in Figure 3, the user device 302 includes a “**device processor or controller 314**” coupled to “**magnetic field generator 308**.” Doughty, [0040], Fig. 3. **Magnetic field generator 308** creates “a time-varying magnetic signal for emulating data obtained from swiping a magnetic stripe card through a magnetic card reader.” Doughty, [0010]. User device 302 also includes a “**memory 312**” that holds transaction data such as “binary data to enable a transaction.” Doughty, [0040], [0041]. And “**smartcard interface 324**” communicates with a “smart card reader 334.” Doughty, [0047], [0048]. **Smart card interface 324** is **coupled to** the **memory 312** via the **processor 314** as shown in Fig. 3 (annotated below). The **processor** is “communicably coupled” to the “**magnetic field generator**” to “activate the magnetic field generator” to create the time-varying magnetic signal. Doughty, [0040], [0041]. Dreifus ¶79.



2. Claim Chart

'156 Claims	Doughty
[1.pre] A mobile device comprising:	To the extent that the preamble is limiting, Doughty discloses a mobile device (<i>e.g.</i>, “personal communication device, such as...a telecommunications device”). <u>E.g., Doughty</u> Doughty discloses a “personal communication device, such as a personal data assistant (PDA), a telecommunications device, a pager.” [0046]. The personal communication device includes a “user device 302” that is “disposed within or mounted on a substrate” that is “integrated into [the] personal communication device.” [0040], [0046], Fig. 3. A POSITA would have understood that a telecommunications device used as a

'156 Claims	Doughty
	“personal communication device” is a mobile phone (and thus a mobile device),⁶ and at minimum would have found it obvious to implement the user device 302 in a mobile phone to advantageously take advantage of a mobile device that a user carries around (including to locations where transactions would occur), reduced risk of theft or loss, the ability to access information on the smartcard using the phone, and the ability to update information on the smartcard using the phone functionality.⁷ Dreifus ¶¶81-83. • Fig. 3:

⁶ For example, U.S. Patent No. 6,400,965 (issued June 4, 2002) discloses a “mobile telecommunication device 100” is a “cellular telephone handset.” Ex. 1029, 1:14-16, Fig. 1. Moreover, U.S. Patent App. Pub. 2006/0017626 (filed July 12, 2004) discloses a “telecommunication device such as a mobile phone.” Ex. 1028, Abstract. Dreifus ¶83.

⁷ It was well-known that use of a portable device such as a “cellular telephone” provides “ease of use of the smartcard, enhanced security from theft or loss, the ability to read and access information stored within the smartcard by utilizing the cellular telephone display for displaying available smartcard functions, and the ability to update/change information stored within the smartcard by utilizing the cellular telephone functions to electronically communicate with an external system.” Fox, Abstract, 2:21-29. Dreifus ¶83.

'156 Claims	Doughty
	<pre> graph TD subgraph 300 [System 300] subgraph 302 [User Device 302] 326[Optical or Other I/O Interface 326] 324[Smart Card Interface 324] 322[Contactless Interface 322] 320[User Interface 320] 310[Biometric Sensor 310] 308[Magnetic Field Generator 308] 318[Power Management 318] 316[Power Source 316] 314[Device Processor or Controller 314] 312[Memory 312] end subgraph 304 [System Interfaces 304] 336[Optical or Other I/O Interface 336] 334[Smart Card Reader 334] 332[Wireless Transceiver 332] 330[Magnetic Reader 330] 328[Device Initialization 328] end 306[System Processor or Controller 306] 340[(Network 340)] 338[(Database 338)] 342[Other Systems 342] end 302 <--> 304 304 <--> 306 306 <--> 340 306 <--> 338 306 <--> 342 </pre> FIG. 3 [0040]: “Now referring to FIG. 3, a block diagram of a system 300 for enabling transactions in accordance with one embodiment of the present invention is shown. <i>More specifically, the present invention provides a system 300 having one or more user devices 302, one or more system interfaces 304 operable to communicate with the user device(s) 302 and a system processor or controller 306 communicably coupled to the one or more system interfaces 304.</i>” [0046]: “The components of <i>the device 302 are typically disposed within or mounted on a substrate....</i> The type of material used for the substrate and the resulting properties of the substrate will depend on the desired

'156 Claims	Doughty
	application and working environment for <i>the device 302</i>.... The substrate may also be integrated into a travel credential, such as a passport, an immigration card and a visa, etc. In addition, <i>the substrate may be integrated into a personal communication device, such as a personal data assistant (PDA), a telecommunications device, a pager</i>, a computer and an electronic mail transceiver, etc. Moreover, the substrate may be integrated into a personal device/belonging, such as a watch, a jewelry, a key ring, a tag and eye glasses, etc.”
[1.a] circuitry to produce a time-varying magnetic field that mimics a swipe of a magnetic card;	Doughty discloses circuitry (e.g., “magnetic field generator 308”) to produce a time-varying magnetic field (e.g., “create a time-varying magnetic signal”) that mimics a swipe of a magnetic card (e.g., “emulating data obtained from swiping a magnetic stripe card”). <u>E.g., Doughty</u> See [1.pre]. Doughty further discloses that “user device 302” includes a “magnetic field generator 308” in the form of a “magnetic stripe” that “create[s] a time-varying magnetic signal for emulating data obtained from swiping a magnetic stripe card through a magnetic card reader.” [0010], [0040], [0041], [0051], Fig. 3. Dreifus ¶¶84-87. • Fig. 3:

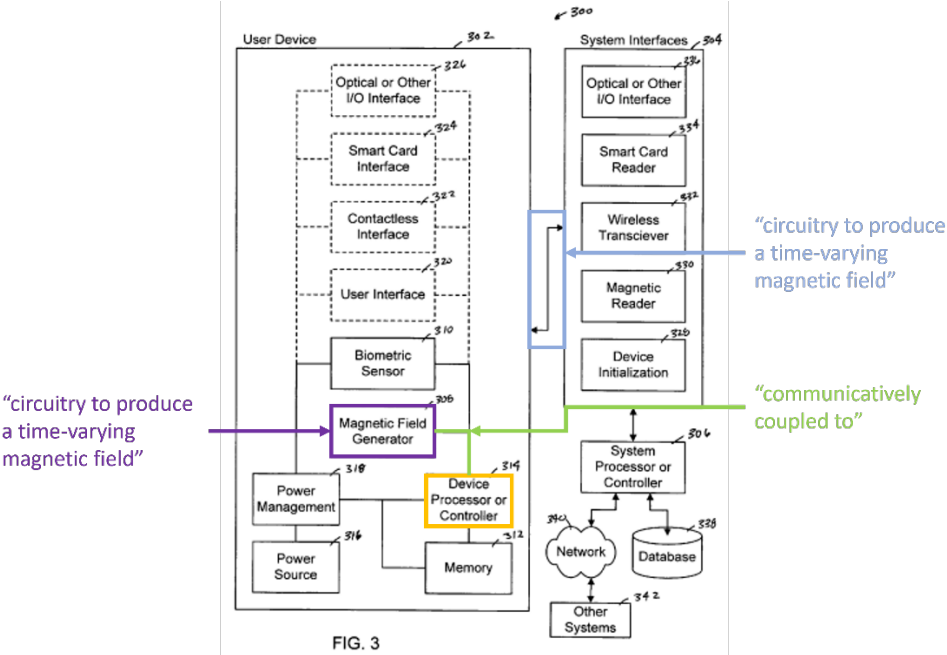
'156 Claims	Doughty
	"circuitry to produce a time-varying magnetic field" The diagram illustrates a system architecture. On the left, a 'User Device' (302) is shown as a large rectangle containing several internal components: 'Optical or Other I/O Interface' (326), 'Smart Card Interface' (324), 'Contactless Interface' (322), 'User Interface' (320), 'Biometric Sensor' (310), 'Magnetic Field Generator' (308), 'Power Management' (318), 'Power Source' (316), 'Device Processor or Controller' (314), and 'Memory' (312). A purple arrow points from the text 'circuitry to produce a time-varying magnetic field' to the 'Magnetic Field Generator' (308). To the right of the User Device is a 'System Interfaces' block (304) containing 'Optical or Other I/O Interface' (334), 'Smart Card Reader' (332), 'Wireless Transceiver' (330), 'Magnetic Reader' (328), and 'Device Initialization' (326). Below these is a 'System Processor or Controller' (306). The System Processor or Controller (306) is connected to the System Interfaces (304) and a 'Network' (340). The Network (340) is connected to a 'Database' (328) and 'Other Systems' (342). FIG. 3 [0010]: "The present invention provides an apparatus or user device that includes a substrate, <i>a magnetic field generator disposed within the substrate</i> that is normally inactive...and a processor disposed within the substrate that is communicably coupled to the magnetic field generator, the biometric sensor and the memory.... The magnetic field generator can create a spatial magnetic signal using a magnetic stripe and one or more induction coils, or <i>create a time-varying magnetic signal for emulating data obtained from swiping a magnetic stripe card through a magnetic card reader</i>. As a result, the magnetic field generator emulates a programmable magnetic stripe." [0040]: "<i>Each user device 302 includes a magnetic field generator 308</i> that is normally inactive.... The device processor 314 is operable to process biometric

'156 Claims	Doughty
	information received from the biometric sensor 310 to verify that a user is authorized to use the device 302 and activate the magnetic field generator 308 when the user is verified.” • [0041]: “<i>The magnetic field generator 308 emulates a programmable magnetic stripe</i> by either creating a spatial magnetic signal or <i>a time-varying magnetic signal for emulating data obtained from swiping a magnetic stripe card through a magnetic card reader.</i>” • [0051]: “The programmable magnetic stripe 550 (308 FIG. 3) includes a magnetic stripe 502, a single inductive coil 552 and a control circuit 554....The long inductive coil 552 is mounted immediately beneath the entire length of the magnetic stripe 502 and its corresponding binary magnetic data cells 504-516 such that <i>a time-varying signal can be transmitted to the heads of the magnetic card reader as the card is swiped through the reader....</i> By establishing the configuration in this manner, the inductive coil 552 can be pulsed with varying currents and current directions so that the time-varying data stream of a card being swiped through the reader is emulated, thus providing the same magnetic data stream to the reader heads of the magnetic stripe reader as would be seen if a card with binary data in multiple spatially distributed data cells 504-516 in the magnetic stripe 502 were swiped through the reader. <i>This magnetic signal will, therefore, emulate the data that would be generated by the swipe of a magnetic stripe card</i> with the desired information embedded in the individual data cells 504-516 of the stripe 502.”
[1.b] a memory to hold transaction data; and	Doughty discloses a memory (e.g., “memory 312”) to hold transaction data (e.g., “binary data to enable a transaction”). <u>E.g., Doughty</u> See [1.pre]-[1.a].

'156 Claims	Doughty
	Doughty further discloses that the user device 302 includes “a memory 312” that stores data “for later transmission by the magnetic field generator 308.” [0040], [0041], Fig. 3. The time varying magnetic field transmitted by the magnetic field generator 308 includes “binary data to enable a transaction, such as a user name, user number, device expiration date, transaction approval/denial, etc.” [0040], [0041]. For example, the data stored in memory 312 can be read from a magnetic stripe of another device so that device 302 can replace the other device. [0040]. As such, a POSITA would have understood, or at minimum found it obvious, that the binary data to enable a transaction is stored in memory 312 to advantageously allow user device 302 to be used for transactions at a later time, after receiving the transaction data, and to reduce the number of cards or devices a user needs to carry with them. Dreifus ¶¶88-91. • Fig. 3:

'156 Claims	Doughty
	FIG. 3 [0009]: “In addition, the card or device can provide such information via a contactless communication system. <i>These capabilities also enable multiple sets of data and applications to be incorporated onto a single card, device or media, thereby making it a universal card/device with numerous sets of data (e.g., accounts) and/or applications that can be temporarily downloaded onto the magnetic stripe from the memory of the on-card</i>

'156 Claims	Doughty
	<i>processor, used in the desired application, and then modified or erased.”</i> • [0040]: “Now referring to FIG. 3, <i>a block diagram of a system 300 for enabling transactions</i> in accordance with one embodiment of the present invention is shown.... <i>Each user device 302 includes</i> a magnetic field generator 308 that is normally inactive, a biometric sensor 310, <i>a memory 312</i>, a device processor or controller 314 and a power source 316. Note that the memory 312 and device processor 314 may be integrated into a single integrated circuit.” • [0041]: “In either case, <i>the magnetic signal includes binary data to enable a transaction, such as a user name, user number, device expiration date, transaction approval/denial, etc....</i> Note that the magnetic field generator 308 may be configured to read a magnetic stripe from another device so that device 302 can replace the other device. <i>The information read from the magnetic stripe would be stored in memory 312 for later transmission by the magnetic field generator 308</i> upon proper authentication.”
[1.c] a processor coupled to the circuitry to cause the circuitry to produce a time-varying magnetic field that represents the transaction data;	Doughty discloses a processor (e.g., “device processor or controller 314”) coupled to the circuitry (e.g., “communicably coupled to” “magnetic field generator 308”) to cause the circuitry to produce a time-varying magnetic field (e.g., “to...activate the magnetic field generator 308” to “creat[e]...a time-varying magnetic signal”) that represents the transaction data (e.g., “includes binary data to enable a transaction”). <u>E.g., Doughty</u> See [1.pre]-[1.b]. Doughty further discloses that “user device 302” includes “device processor or controller 314” that is “communicably coupled” to and activates “magnetic field generator 308.” [0040], Fig. 3. The magnetic field generator 308 generates “a time-varying magnetic signal” that includes the “binary data to

'156 Claims	Doughty
	enable a transaction such as a user name, user number, device expiration date, transaction approval/denial, etc.” [0041]. Dreifus ¶¶92-95. Fig. 3:  “circuitry to produce a time-varying magnetic field” “circuitry to produce a time-varying magnetic field” “communicatively coupled to” FIG. 3 [0040]: “Now referring to FIG. 3, a block diagram of a system 300 for enabling transactions in accordance with one embodiment of the present invention is shown....<i>Each user device 302 includes a magnetic field generator 308</i> that is normally inactive, a biometric sensor 310, a memory 312, <i>a device processor or controller 314</i> and a power source 316. Note that the memory 312 and device processor 314 may be integrated into a single integrated circuit. ... <i>The magnetic field generator 308</i>, biometric sensor 310 and memory 312 are all <i>communicably coupled to the device processor 314</i>.... <i>The device processor 314 is operable to process biometric information received from the biometric sensor 310 to verify that a user is authorized to use the device 302 and activate the magnetic field generator 308 when the user is verified.</i>”

'156 Claims	Doughty
	• [0041]: “<i>The magnetic field generator 308 emulates a programmable magnetic stripe by either creating a spatial magnetic signal or a time-varying magnetic signal for emulating data obtained from swiping a magnetic stripe card through a magnetic card reader</i> (See FIG. 5B)....In either case, <i>the magnetic signal includes binary data to enable a transaction, such as a user name, user number, device expiration date, transaction approval/denial, etc.</i>” • [0051]: “The programmable magnetic stripe 550 (308 FIG. 3) includes a magnetic stripe 502, a single inductive coil 552 and a control circuit 554....The long inductive coil 552 is mounted immediately beneath the entire length of the magnetic stripe 502 and its corresponding binary magnetic data cells 504-516 such that <i>a time-varying signal can be transmitted to the heads of the magnetic card reader as the card is swiped through the reader</i>.... By establishing the configuration in this manner, the inductive coil 552 can be pulsed with varying currents and current directions so that the time-varying data stream of a card being swiped through the reader is emulated, thus providing the same magnetic data stream to the reader heads of the magnetic stripe reader as would be seen if a card with binary data in multiple spatially distributed data cells 504-516 in the magnetic stripe 502 were swiped through the reader. <i>This magnetic signal will, therefore, emulate the data that would be generated by the swipe of a magnetic stripe card</i> with the desired information embedded in the individual data cells 504-516 of the stripe 502.”
[1.d] wherein the mobile device comprises a mobile phone.	Doughty discloses that the mobile device comprises a mobile phone (e.g., “telecommunications device”). <u>E.g., Doughty</u> See [1.pre].

'156 Claims	Doughty
	As explained in [1.pre], Doughty discloses and at minimum renders obvious that the telecommunications device is a mobile phone. Dreifus ¶¶96-99. • [0046]: “The components of the device 302 are typically disposed within or mounted on a substrate. ... <i>In addition, the substrate may be integrated into a personal communication device</i>, such as a personal data assistant (PDA), <i>a telecommunications device</i>, a pager, a computer and an electronic mail transceiver, etc.”
[2] The mobile device of claim 1 wherein the time-varying magnetic field mimics a swipe of a magnetic credit card.	See [1]. Doughty discloses that the time-varying magnetic field mimics a swipe of a magnetic credit card (e.g., “time-varying magnetic signal for emulating data obtained from swiping a magnetic stripe card,” such as “credit...cards”). <u>E.g., Doughty</u> <i>See [1.a].</i> Doughty further discloses that the time-varying magnetic field is “for emulating data obtained from swiping a magnetic stripe card through a magnetic card reader.” [0041], Fig. 3. Doughty further discloses that “the present invention provides a system, method, and apparatus for a practical and secure card or device that has the advantages of a smart card and will interface with existing world-wide magnetic stripe readers,” and specifically “a secure and flexible system for security and/or commercial transactions using credit...cards.” [0038]. Dreifus ¶¶100-103. • [0008]: “The present invention provides a system, method and apparatus for a practical and secure card or device that has the advantages of a smart card and will interface with existing world-wide magnetic stripe readers without the use of adapters or bridges. Moreover, the present invention allows for proper authentication in multiple account/application cards and devices to reduce the risk to the device holder due to loss of the device or fraudulent capture of the data within the multiple accounts

'156 Claims	Doughty
	on the device. As a result, <i>the present invention provides a secure and flexible system for security and/or commercial transactions using access, credit, debit, identification, security, stored value and vendor-specific cards and/or devices.</i>" • [0038]: "<i>The present invention provides a system, method and apparatus for a practical and secure card or device that has the advantages of a smart card and will interface with existing world-wide magnetic stripe readers</i> without the use of adapters or bridges. Moreover, the present invention allows for proper authentication in multiple account/application cards and devices to reduce the risk to the device holder due to loss of the device or fraudulent capture of the data within the multiple accounts on the device. As a result, <i>the present invention provides a secure and flexible system for security and/or commercial transactions using access, credit, debit, identification, security, stored value and vendor-specific cards and/or devices.</i>" • [0041]: "The <i>magnetic field generator 308 emulates a programmable magnetic stripe by either creating a spatial magnetic signal or a time-varying magnetic signal for emulating data obtained from swiping a magnetic stripe card through a magnetic card reader</i> (See FIG. 5B)." <i>See also [0010], [0051]-[0052].</i>
[3] The mobile device of claim 1 wherein the transaction data comprises financial data.	<i>See [1].</i> Doughty discloses that the transaction data comprises financial data (e.g., "binary data to enable a transaction" for a "financial transaction"). <u>E.g., Doughty</u> <i>See [1.b]-[1.c].</i> Doughty further discloses that "the device can be used to enable any type of transaction, such as...a financial transaction." [0054]. Thus, Doughty's binary transaction data comprises

'156 Claims	Doughty
	financial data to enable financial transactions. Dreifus ¶¶104-107. • [0008]: “The present invention provides a system, method and apparatus for a practical and secure card or device that has the advantages of a smart card and will interface with existing world-wide magnetic stripe readers without the use of adapters or bridges. Moreover, the present invention allows for proper authentication in multiple account/application cards and devices to reduce the risk to the device holder due to loss of the device or fraudulent capture of the data within the multiple accounts on the device. As a result, <i>the present invention provides a secure and flexible system for security and/or commercial transactions using access, credit, debit, identification, security, stored value and vendor-specific cards and/or devices.</i>” • [0038]: “<i>The present invention provides a system, method and apparatus for a practical and secure card or device that has the advantages of a smart card and will interface with existing world-wide magnetic stripe readers</i> without the use of adapters or bridges. Moreover, the present invention allows for proper authentication in multiple account/application cards and devices to reduce the risk to the device holder due to loss of the device or fraudulent capture of the data within the multiple accounts on the device. As a result, <i>the present invention provides a secure and flexible system for security and/or commercial transactions using access, credit, debit, identification, security, stored value and vendor-specific cards and/or devices.</i>” • [0041]: “The magnetic field generator 308 emulates a programmable magnetic stripe by either creating a spatial magnetic signal...<i>the magnetic signal includes binary data to enable a transaction</i>, such as a user name, user number, device expiration date, transaction approval/denial, etc.”

'156 Claims	Doughty
	[0054]: “<i>The device can be used to enable any type of transaction, such as an access transaction, a control transaction, a financial transaction, a commercial transaction or an identification transaction.</i>”
[4] The mobile device of claim 3 wherein the financial data comprises credit card data.	See [3]. Doughty discloses that the financial data (see [3]) comprises credit card data (e.g., data for “commercial transactions using...credit...cards”). <u>E.g., Doughty</u> <i>See [1.b]-[1.c], [2]-[3].</i> Doughty further discloses that “the present invention provides a secure and flexible system for security and/or commercial transactions using...credit...cards and/or devices.” [0038]. For example, the financial data includes “user name, user number, device expiration date,” which is credit card data. [0041]. A POSITA would have understood and at minimum found obvious that the “binary data to enable a transaction” comprises credit card data to advantageously use the device for commercial transactions involving credit cards. Dreifus ¶¶108-111. [0008]: “The present invention provides a system, method and apparatus for a practical and secure card or device that has the advantages of a smart card and will interface with existing world-wide magnetic stripe readers without the use of adapters or bridges. Moreover, the present invention allows for proper authentication in multiple account/application cards and devices to reduce the risk to the device holder due to loss of the device or fraudulent capture of the data within the multiple accounts on the device. As a result, <i>the present invention provides a secure and flexible system for security and/or commercial transactions using access, credit, debit, identification, security, stored value and vendor-specific cards and/or devices.</i>”

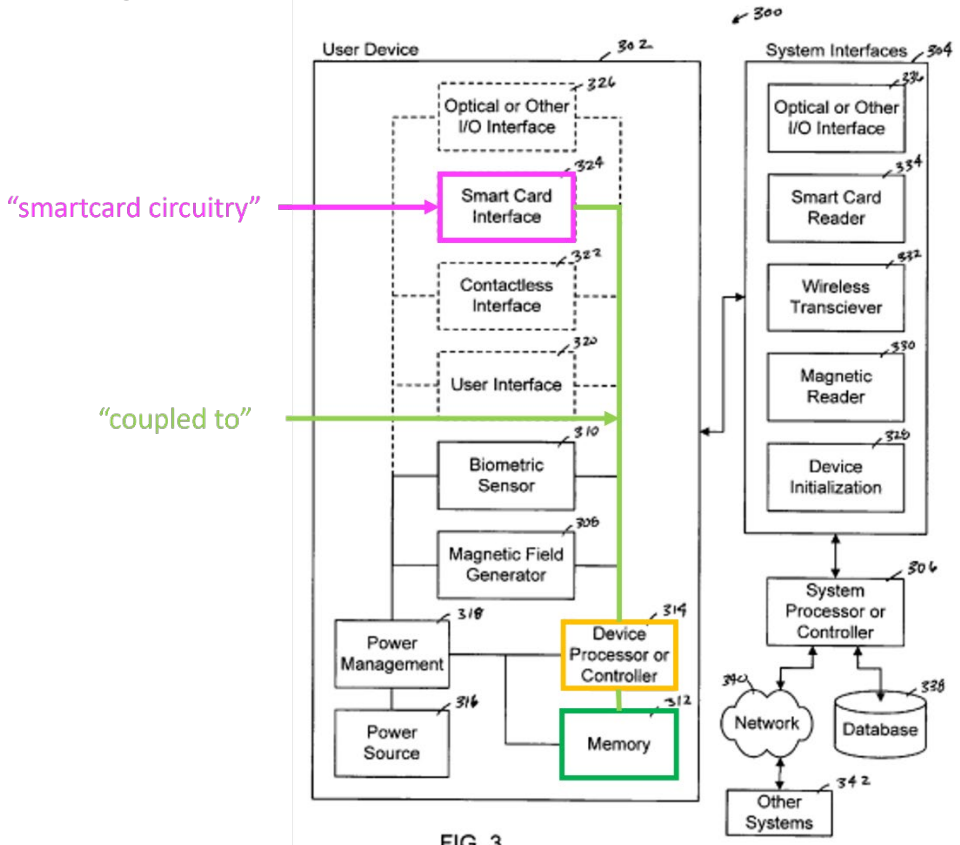
'156 Claims	Doughty
	• [0038]: “The present invention provides a system, method and apparatus for a practical and secure card or device that has the advantages of a smart card and will interface with existing world-wide magnetic stripe readers without the use of adapters or bridges. Moreover, the present invention allows for proper authentication in multiple account/application cards and devices to reduce the risk to the device holder due to loss of the device or fraudulent capture of the data within the multiple accounts on the device. As a result, <i>the present invention provides a secure and flexible system for security and/or commercial transactions using access, credit, debit, identification, security, stored value and vendor-specific cards and/or devices.</i>” • [0041]: “The magnetic field generator 308 emulates a programmable magnetic stripe by either creating a spatial magnetic signal...<i>the magnetic signal includes binary data to enable a transaction</i>, such as a <i>user name, user number, device expiration date</i>, transaction approval/denial, etc.” • [0054]: “Now referring to FIG. 7, a flow chart of an exemplary authentication method 700 for using a device, such as device 300 (FIG. 3), in accordance with the present invention is shown. The device contains information associated with one or more users, a magnetic field generator that is normally inactive and a biometric sensor. <i>The device can be used to enable any type of transaction, such as an access transaction, a control transaction, a financial transaction</i>, a commercial transaction or an identification transaction.”
[5] The mobile device of claim 1 further comprising smartcard circuitry	See [1]. Doughty discloses that the mobile device further comprises smartcard circuitry (e.g., “smart card interface 324”) coupled to the memory (e.g., “memory 312”) and the processor (e.g., “device processor or controller 314”).

'156 Claims	Doughty
coupled to the memory and the processor.	<u>E.g., Doughty</u> <i>See</i> [1.pre], [1.b]-[1.c]. Doughty further discloses that the user device 302 includes “smart card interface 324.”⁸ Fig. 3, [0040], [0045], [0046]. Doughty also discloses that the user device 302 communicates with “one or more system interfaces 304,” including “smart card reader 334.” Fig. 3, [0040], [0047]. Thus, “smart card interface” 324 enables “user device 302” to communicate with “smart card reader 334.”⁹ Dreifus ¶¶112-116. Doughty further discloses that “smart card interface 324” is “communicably coupled to the device processor 314,” and to the “memory 312” via processor 314. Fig. 3, [0040], [0045].¹⁰ Dreifus ¶117. To the extent that it is argued that further disclosure is required for the smartcard circuitry, the user device 302 is smartcard card circuitry that performs transactions. As noted above, the user

⁸ **Doughty** further discloses that “smart card interface 324” is a smartcard chip. Doughty, [0048], Fig. 4A. And, at minimum, a POSITA would have at least found it obvious to use a smartcard chip for the smart card interface 324. Dreifus ¶115.

⁹ This is consistent with the '156, which discloses that “[m]agnetic/smartcard circuitry 2030 may include circuits to produce...signals compatible with a smart card reader.” '156, 11:5-7. Dreifus ¶116.

¹⁰ This is consistent with the '156, which discloses that the smartcard circuitry 2030 is coupled to memory 2010 through processor 2020. *See* '156, Fig. 20. Dreifus ¶117.

'156 Claims	Doughty
	device performs transactions using the smart card interface 324. In this case, the processor 314 is coupled to all other circuitry in the device 302 such that processor 314 is coupled to the smartcard circuitry. Fig. 3. Dreifus ¶118. Fig. 3:  FIG. 3 [0040]: “Now referring to FIG. 3, a block diagram of a system 300 for enabling transactions in accordance with one embodiment of the present invention is shown. More specifically, the present invention provides a system 300 having one or more user devices 302, one or more system interfaces 304 operable to communicate with the user device(s) 302 and a system processor or controller 306 communicably coupled to the one or more system interfaces 304. Each user device 302 includes a magnetic field generator 308 that is normally inactive, a biometric

'156 Claims	Doughty
	sensor 310, a memory 312, a device processor or controller 314 and a power source 316. <i>Note that the memory 312 and device processor 314 may be integrated into a single integrated circuit. The device processor 314 may also include a smart card processor and an application specific integrated circuit (“ASIC”) chip.</i> In addition, the power source 316 may be controlled by a power management unit 318. The magnetic field generator 308, biometric sensor 310 and memory 312 are all communicably coupled to the device processor 314.” • [0041]: “Note that the magnetic field generator 308 may be configured to read a magnetic stripe from another device so that device 302 can replace the other device. The information read from the magnetic stripe would be stored in memory 312 for later transmission by the magnetic field generator 308 upon proper authentication.” • [0045]: “<i>The device 302 may also include a user interface 320 that is communicably coupled to the device processor 314</i> and electrically connected to the power source 316 (via power management unit 318). The user interface 320 may include a touch pad, one or more buttons, a display, a voice sensor or other known user interfaces. <i>The device 302 may also include a contactless interface 322 that is communicably coupled to the device processor 314</i> and electrically connected to the power source 316 (via power management unit 318). The contactless interface 322 may include an antenna for wireless communication, an optical transceiver or other known contactless communication methods. <i>In addition, device 302 may also include a smart card interface 324 that is communicably coupled to the device processor 314</i> and electrically connected to the power source 316 (via power management unit 318). <i>Moreover, device 302 may include an optical or other type of input/output (VO) interface 326 that is communicably coupled to the device processor 314</i> and electrically connected to the power source 316 (via power management unit 318).”

'156 Claims	Doughty
	• [0046]: “The components of the device 302 are typically disposed within or mounted on a substrate. <i>For example, the biometric sensor 310, user interface 320, smart card interface 324 and optical or other I/O interface 326 are typically mounted on the substrate; whereas the memory 312, device processor 314, power source 316 and power management unit 318 are typically disposed within the substrate.</i> The magnetic field generator 308 and contactless interface 322 can be mounted on the substrate or disposed within the substrate. The type of material used for the substrate and the resulting properties of the substrate will depend on the desired application and working environment for the device 302.” • [0047]: “The <i>one or more system interfaces 304</i> may include a device initialization interface 328, magnetic reader 330, a wireless communications interface (transceiver) 332, <i>a smart card reader 334</i>, or an optical or other input/output interface 336. <i>The one or more system interfaces 304 are used to communicate with the user device 302 physically or contactlessly,</i> depending on the desired application and implementation....” • [0054]: “<i>Now referring to FIG. 7, a flow chart of an exemplary authentication method 700 for using a device, such as device 300 (FIG. 3), in accordance with the present invention is shown.</i> The device contains information associated with one or more users, a magnetic field generator that is normally inactive and a biometric sensor. <i>The device can be used to enable any type of transaction, such as an access transaction, a control transaction, a financial transaction, a commercial transaction or an identification transaction.</i> ... The one or more activation parameters may include detecting data from the biometric sensor (e.g., 310 FIG. 3), <i>detecting an external signal from an interface (e.g., 308, 322, 324, 326 FIG. 3)</i> or receiving data from a user interface (e.g., 320 FIG. 3). ... If, however, authentication data is

'156 Claims	Doughty
	received from the biometric sensor, as determined in decision block 710, the authentication data is verified in block 716.” [0055]: “As previously described in reference to FIG. 3, <i>the device outputs may include a magnetic field generator 308 (programmable magnetic stripe), a contactless interface 322, a smart card interface 324, or an optical or other I/O interface 326.</i> Using the magnetic field generator 308 for example, this step would involve activating the magnetic field generator 308 and generating a magnetic signal corresponding to the information associated with the authenticated user.”
[8] The mobile device of claim 1 wherein the time-varying magnetic field is used to perform point-of-sale transactions.	See [1]. Doughty discloses that the time-varying magnetic field (e.g., “time-varying magnetic signal”) is used to perform point-of-sale transactions (e.g., used for “any type of transaction” including “a financial transaction” or “a commercial transaction” with a “point of sale device”). <u>E.g., Doughty</u> <i>See</i> [1.pre]-[1.c], [4]. As explained in [4], Doughty discloses that device 302 is used to transmit credit card financial data. A POSITA would have understood that such data is used for point-of-sale transactions. Dreifus ¶¶119-122. In addition, Doughty further discloses that Figures 19 and 20 provide “methods 1900 and 2000” for “using the present disclosure in a financial transaction environment.” [0095]. In describing this method, Doughty discusses specifically “device 800” as an exemplary device that can be used for the method, but a POSITA would have understood that device 302 is also part of the “present disclosure,” and methods 1900 and 2000 are thus equally applicable to device 302. [0054], [0095]-[0097], [0101]. Doughty discloses that, in method 1900, “retail purchases” are made by “hold[ing] the device 800 in the RF

'156 Claims	Doughty
	field generated by point-of-sale ('POS') device, which may be a kiosk, personal computer, cash register, or similar device" in order "[t]o register a selected fingerprint." [0098], Fig. 19. Additionally, Doughty discloses that "device 800" is used to "authorize a payment transaction" by "hold[ing] the device 800 within a RF field generated by a RF reader connected to the POS device." [0099], Fig. 20. Dreifus ¶123. To the extent it is argued that Doughty discloses method 1900 as a separate embodiment, not applicable to device 302, a POSITA would have found it obvious to use Doughty's user device to perform point-of-sale transactions by communicating with a point-of-sale device to perform financial transactions using the time-varying magnetic signal. For example, a POSITA would have understood that the use of device 302 for point-of-sale transactions would advantageously allow a user to conveniently purchase goods without the need to separately carry cards (e.g., credit cards) to perform those transactions. A POSITA would have had a reasonable expectation of success in using the device in this manner and known such an application (yielding the claimed limitations) would predictably work and provide the expected functionality. Dreifus ¶124. • Fig. 19:

'156 Claims	Doughty
	<pre>graph TD; Start([Start]) --> 1402[Power device using power obtained from RF field]; 1402 --> 1404{First time used?}; 1404 -- Yes --> 1406[Prompt user to actuate biometric sensor (e.g., fingerprint sensor)]; 1406 --> 1408[Read biometric information from sensor]; 1408 --> 1410[Store template in memory]; 1410 --> 1412[Inform user that template is stored]; 1412 --> End([End]); 1404 -- No --> End;</pre> Fig. 19 • Fig. 20:

'156 Claims	Doughty
	“point-of-sale transactions” <pre>graph TD; 2000([Start]) --> 2002[Place device into RF field]; 2002 --> 2004[Actuate biometric sensor (e.g., place finger on fingerprint sensor)]; 2004 --> 2006{Store transaction information?}; 2006 -- Yes --> 2008[Store transaction information]; 2006 -- No --> 2010[Remove device from RF field]; 2008 --> 2010; 2010 --> End([End]);</pre> Fig. 20 • [0008]: “The present invention provides a system, method and apparatus for a practical and secure card or device that has the advantages of a smart card and will interface with existing world-wide magnetic stripe readers without the use of adapters or bridges. Moreover, the present invention allows for proper authentication in multiple account/application cards and devices to reduce the risk to the device holder due to loss of the device or

'156 Claims	Doughty
	fraudulent capture of the data within the multiple accounts on the device. As a result, <i>the present invention provides a secure and flexible system for security and/or commercial transactions using access, credit, debit, identification, security, stored value and vendor-specific cards and/or devices.</i> • [0038]: “The present invention provides a system, method and apparatus for a practical and secure card or device that has the advantages of a smart card and will interface with existing world-wide magnetic stripe readers without the use of adapters or bridges. Moreover, the present invention allows for proper authentication in multiple account/application cards and devices to reduce the risk to the device holder due to loss of the device or fraudulent capture of the data within the multiple accounts on the device. As a result, <i>the present invention provides a secure and flexible system for security and/or commercial transactions using access, credit, debit, identification, security, stored value and vendor-specific cards and/or devices.</i>” • [0041]: “The magnetic field generator 308 emulates a programmable magnetic stripe by either creating a spatial magnetic signal...<i>the magnetic signal includes binary data to enable a transaction</i>, such as a <i>user name, user number, device expiration date</i>, transaction approval/denial, etc.” • [0054]: “Now referring to FIG. 7, a flow chart of an exemplary authentication method 700 for using a device, such as device 300 (FIG. 3), in accordance with the present invention is shown. The device contains information associated with one or more users, a magnetic field generator that is normally inactive and a biometric sensor. <i>The device can be used to enable any type of transaction, such as an access transaction, a control transaction, a financial transaction, a commercial transaction or an identification transaction.</i>”

'156 Claims	Doughty
	• [0095]: “Referring now to FIGS. 19 and 20, in another embodiment, <i>methods 1900 and 2000 illustrate using the present disclosure in a financial transaction environment</i>. The financial transaction environment includes making <i>retail purchases</i> in either a physical store or on-line (e.g., over the Internet). The present disclosure may be implemented in the financial transaction environment by using a device, such as the device 800 of FIG. 8, to identify buyers, verify the identity of the buyer rapidly in a localized venue, associate the buyer's identity with a credit or debit account, and/or assure the availability and legitimacy of funds in these accounts for payment transactions.” • [0098]: “Referring specifically to FIG. 19, before <i>the device 800 is usable in financial transactions</i>, it should be initialized by the buyer/owner with the registration of a selected fingerprint pattern into secured memory of the device 800. To register a selected fingerprint, <i>the device owner holds the device 800 in the RF field generated by a point of sale (“POS”) device, which may be a kiosk, personal computer, cash register, or similar device</i>. The RF energy from the POS device provides for the power of the device 800 and display activation in step 1902....” • [0099]: “Referring specifically to FIG. 20, <i>to authorize a payment transaction</i> where invoice information is displayed by the POS device, <i>the user of the device 800 holds the device 800 within a RF field generated by a RF reader connected to the POS device</i> in step 2002. For example, the user may hold the device 810 at an approximate six inch distance from the RF reader. In step 2004, the user actuates the biometric sensor 802 (e.g., touches the fingerprint sensor with his/her finger or thumb) to effect a comparative match with his/her previously registered fingerprint securely stored in the memory of the card. A successful match effects an encrypted approval and transfer of cardholder account

'156 Claims	Doughty
	data to the seller's administrative account receivables processing system.” • <i>See also</i> [0096]-[0097], [0101].
[9.pre]. A mobile device comprising:	<i>See</i> [1.pre]. Dreifus ¶¶125-126.
[9.a] circuitry to produce a time-varying magnetic field that mimics a swipe of a magnetic card;	<i>See</i> [1.a]. Dreifus ¶¶127-128.
[9.b] smartcard circuitry for performing transactions; and	Doughty discloses smartcard circuitry (<i>e.g.</i>, “smart card interface 324”; <i>see</i> [5]) for performing transactions (<i>e.g.</i>, “enable any type of transaction”). <u>E.g., Doughty</u> <i>See</i> [1.c], [4], [5], [8]. Doughty further discloses that smart card interface 324 is for “detecting an external signal” and acting as a “device output” for communication with another device, such as a “smart card reader 334.”¹¹ [0047], [0051], [0054], [0055], Fig. 3. Dreifus ¶¶129-132.

¹¹ This is consistent with the '156, in which the only description of “smartcard circuitry” “for performing transactions” is that “smartcard circuitry 2030” includes “circuits to produce...signals compatible with a smart card reader.” '156, 11:5-7. Dreifus ¶132.

'156 Claims	Doughty
	Moreover, Doughty discloses that the “device 300 [<i>sic</i>, 302]” from “FIG. 3” uses smart card interface 324 in “an exemplary authentication method 700” to “enable any type of transaction, such as an access transaction, a control transaction, a financial transaction, a commercial transaction or an identification transaction.” [0054], Fig. 7. For example, Doughty discloses that, in block 722 of the transaction method, “the information associated with the authenticated user,” such as information “required to enable or complete the transaction,” is “provided to the device outputs,” including smart card interface 324, and then in the subsequent block 724, the transaction is complete. [0055]. Dreifus ¶133. To the extent that it is argued that further disclosure is required for the smartcard circuitry, the user device 302 is smartcard card circuitry that performs transactions. As noted above, the user device performs transactions using the smart card interface 324. Dreifus ¶134. • Fig. 3:

'156 Claims	Doughty
	"smartcard circuitry" FIG. 3 • Fig. 7:

'156 Claims	Doughty
	"transactions" <pre> graph TD 702([Device in Standby Mode]) --> 704{Activation Parameters Satisfied} 704 -- NO --> 706[Remain in Standby Mode] 706 --> 702 704 -- YES --> 708[Switch to Active Mode] 708 --> 710{Authentication Data Received} 710 -- NO --> 712{Time Out} 712 -- YES --> 714[Switch to Standby Mode] 714 --> 702 710 -- YES --> 716[Verify Authentication Data] 716 --> 718{Authentication Data Valid} 718 -- NO --> 712 718 -- YES --> 720[Access Information Associated with Authenticated User] 720 --> 722[Provide Information to Device Output(s)] 722 --> 724{Transaction Complete} 724 -- YES --> 714 724 -- NO --> 726{Time Out} 726 -- YES --> 728[Clear Information from Device Output(s)] 728 --> 714 726 -- NO --> 712 </pre> [0047]: <i>"The one or more system interfaces 304 may include a device initialization interface 328, a magnetic reader 330, a wireless communications interface (transceiver) 332, a smart card reader 334, or an optical or other input/output interface 336. The one or more system interfaces 304 are used to communicate with the user device 302 physically or contactlessly, depending on the desired application and implementation."</i> [0051]: <i>"The programmable magnetic stripe 550 (308 FIG. 3) includes a magnetic stripe 502, a single inductive coil 552 and a control circuit 554....The long inductive</i>

'156 Claims	Doughty
	coil 552 is mounted immediately beneath the entire length of the magnetic stripe 502 and its corresponding binary magnetic data cells 504-516 such that <i>a time-varying signal can be transmitted to the heads of the magnetic card reader as the card is swiped through the reader....</i> By establishing the configuration in this manner, the inductive coil 552 can be pulsed with varying currents and current directions so that the time-varying data stream of a card being swiped through the reader is emulated, thus providing the same magnetic data stream to the reader heads of the magnetic stripe reader as would be seen if a card with binary data in multiple spatially distributed data cells 504-516 in the magnetic stripe 502 were swiped through the reader. <i>This magnetic signal will, therefore, emulate the data that would be generated by the swipe of a magnetic stripe card</i> with the desired information embedded in the individual data cells 504-516 of the stripe 502.” • [0054]: “Now referring to FIG. 7, a flow chart of an exemplary authentication method 700 for using a device, such as device 300 (FIG. 3), in accordance with the present invention is shown. The device contains information associated with one or more users, a magnetic field generator that is normally inactive and a biometric sensor. <i>The device can be used to enable any type of transaction, such as an access transaction, a control transaction, a financial transaction, a commercial transaction or an identification transaction.</i> ... The one or more activation parameters may include detecting data from the biometric sensor (e.g., 310 FIG. 3), <i>detecting an external signal from an interface (e.g., 308, 322, 324, 326 FIG. 3)</i> or receiving data from a user interface (e.g., 320 FIG. 3). ... If, however, authentication data is received from the biometric sensor, as determined in decision block 710, the authentication data is verified in block 716.”

'156 Claims	Doughty
	• [0055]: “If, however, the authentication data is valid, as determined in decision block 718, <i>the information associated with the authenticated user is accessed in block 720 and provided to the device outputs in block 722. The information can be a simple approval or denial of the transaction, or private information of the user that is required to enable or complete the transaction.</i> As previously described in reference to FIG. 3, <i>the device outputs may include</i> a magnetic field generator 308 (programmable magnetic stripe), a contactless interface 322, <i>a smart card interface 324</i>, or an optical or other I/O interface 326. Using the magnetic field generator 308 for example, this step would involve activating the magnetic field generator 308 and generating a magnetic signal corresponding to the information associated with the authenticated user...<i>Once the transaction is complete</i>, as determined in decision block 724, <i>the information is cleared from the device output(s)</i> in block 728, the device is switched to standby mode in block 714 and the device waits for various activation parameters in block 704.”
[9.c] a processor coupled to the smartcard circuitry and the circuitry to produce a time-varying magnetic field;	Doughty discloses a processor (e.g., “device processor or controller 314”) coupled to the smartcard circuitry (e.g., “smart card interface 324”; see [9.b]) and the circuitry to produce a time-varying magnetic field (e.g., “magnetic field generator 308”; see [1.a]). See [1.a], [1.c], [5], [9.a], [9.b]. Doughty further discloses the processor 314 is coupled to smart card interface 324 and magnetic field generator 308 as illustrated in Fig. 3. Dreifus ¶¶135-138. In the case where the user device 302 is smartcard circuitry, the processor 314 is coupled to all other circuitry in the device 302 such that processor 314 is coupled to the smartcard circuitry. Fig. 3. Dreifus ¶139.

'156 Claims	Doughty
[9.d] wherein the mobile device comprises a mobile phone.	<i>See</i> [1.d]. Dreifus ¶¶140-141.
[10] The mobile device of claim 9 wherein the smartcard circuitry is configured to perform point-of-sale transactions.	<i>See</i> [9]. Doughty discloses that the smartcard circuitry (e.g., “smart card interface 324”) is configured to perform point-of-sale transactions (e.g., “any type of transaction” including transactions with a “point-of-sale device”). <u>E.g., Doughty</u> <i>See</i> [1.b], [5], [8], [9.b], [9.c]. As discussed above in connection with [8], Doughty discloses device 302 is used for point-of-sale transactions. Moreover, Doughty discloses that any of the interfaces of device 302 (including smart card interface 324) is usable to perform a transaction. [0054]-[0055]. Thus, a POSITA would have understood, or at minimum found it obvious, that the “smart card interface 324” is used to perform transactions, such as point-of-sale transactions. Dreifus ¶¶142-145. In the case where the user device 302 is smartcard circuitry, as explained, the device 302 is configured to perform point-of-sale transactions. Dreifus ¶146.
[11] The mobile device of claim 9 wherein the transactions are financial transactions.	<i>See</i> [3], [9], [10]. Dreifus ¶¶147-148.
[12] The mobile device of claim 9	<i>See</i> [2], [9]. Dreifus ¶¶149-150.

'156 Claims	Doughty
wherein the time-varying magnetic field mimics a swipe of a magnetic credit card.	

B. Ground 2: Doughty in view of Fox (Claims 1-5, 8-12)

To the extent it is argued that further disclosure is required for a mobile phone ([1.pre], [1.d]), **Fox** discloses that the mobile device is a mobile phone (*e.g.*, “cellular telephone 10”). Dreifus ¶151.

Fox discloses a “cellular telephone 10” that includes a “smartcard function” including an “RF interface” providing a “contactless interface between the smartcard logic function circuitry in telephone 10 and an external reader/system.” Fox, Abstract, 2:10-29. Dreifus ¶152.

Doughty and **Fox** are analogous art, in the same field as the '156, which includes electronic devices for performing transactions, and are reasonably pertinent to purported problems addressed by the named inventors of the '156 involving the use of electronic devices to securely perform transactions. '156, 1:6-24, 4:60-5:7, 5:29-37, 6:1-18; Doughty, [0002], [0003], [0004], [0007], [0008], [0038], [0040], [0041], [0046], Fig. 5B; Fox, 1:5-8, 2:10-29, 3:49-59, 4:43-56, Fig. 3. Dreifus ¶153.

A POSITA would have been motivated to apply **Fox's** teaching of

implementing smartcard functionality in a mobile telephone to **Doughty's** “telecommunications device.” To the extent that it is argued that “telecommunications device” in **Doughty** refers to the more general class of devices communicating over a distance, instead of to a mobile phone specifically, a POSITA would have been motivated to look to a reference like **Fox**, which teaches examples of such telecommunications devices in which to implement smartcard functionality, including a mobile telephone. **Doughty**, [0038], [0040]. Dreifus, ¶154. For example, **Fox** explains that integration of smartcard functionality into a mobile phone provides numerous advantages, including “ease of use of the smartcard, enhanced security from theft or loss, the ability to read and access information stored within the smartcard by utilizing the cellular telephone display for displaying available smartcard functions, and the ability to update/change information stored within the smartcard by utilizing the cellular telephone functions to electronically communicate with an external system.” **Fox**, 2:21-29. Dreifus ¶154. Moreover, a POSITA would have understood that implementing the functionality in a mobile phone would advantageously allow a user to carry the smartcard functionality in a device that a user would already be carrying around with them, including to locations where transactions would take place. **Fox**, 2:21-29. Dreifus ¶154. A POSITA would have found it straightforward and advantageous to apply **Fox's** teachings to **Doughty** given **Doughty's** teaching that its system could be implemented in a variety of

mobile devices, including a “telecommunications device.” Doughty, [0046]. Dreifus ¶154.

Accordingly, a POSITA would have had a reasonable expectation of success applying **Fox’s** teachings to **Doughty’s** telecommunications device, and would have known such a combination (yielding the claimed limitations) would predictably work and provide the expected functionality. Dreifus, ¶155.

X. SECONDARY CONSIDERATIONS

There is no evidence in the ’156’s prosecution history or elsewhere supporting any secondary considerations arguments, or evidence of nexus to any challenged Claim. *See generally* ’156FH. Dreifus, ¶157. Indeed, as demonstrated by the prior art referenced herein, any purported solutions to problems or unexpected results in the ’156 were already well known. Dreifus, ¶156.

To the extent that PO contends that the accused products in the Texas Case are infringing and thus demonstrate commercial success, any such conclusory allegations would fail to provide any indication that the Claims are non-obvious. Such conclusory assertions would not demonstrate that Samsung’s products infringe, let alone show any nexus between any alleged commercial success and the Claims, or that any alleged success is due to an allegedly claimed component instead of the many unclaimed features of the accused products. Dreifus, ¶158.

To the extent PO asserts the existence of any secondary considerations in its

responses, Petitioners reserve the right to address any such evidence. Dreifus ¶159.

XI. CONCLUSION

Substantial, new, and noncumulative technical teachings have been presented for each Challenged Claim, which are anticipated and/or rendered obvious for the reasons set forth above. Dreifus ¶¶160-165. There is a reasonable likelihood Petitioners will prevail as to each of these Claims. *Inter partes* review of Claims 1-5 and 8-12 of the '156 is accordingly requested.

Dated: March 10, 2025

Respectfully submitted,

By: /James L. Davis, Jr./

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Lead Counsel for Petitioners

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(a) and (d), the undersigned hereby certify that the Petition For *Inter Partes* Review complies with the type-volume limitation of 37 C.F.R. § 42.24(a)(i) because, exclusive of the exempted portions, it contains 11,666 words as counted by the word processing program used to prepare the paper.

Dated: March 10, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on March 10, 2025, I caused a true and correct copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 9,202,156 and supporting exhibits to be served via express mail on the Patent Owner at the following correspondence address of record as listed on Patent Center:

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