

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,  
Petitioner,

v.

AIRE TECHNOLOGY LIMITED,  
Patent Owner.

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IPR2022-01137  
Patent 8,581,706 B2

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Before JEFFREY S. SMITH, BRIAN J. McNAMARA, and  
MIRIAM L. QUINN, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION  
Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

### A. Background and Summary

Petitioner, Apple Inc., filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–3, 11, 12, 16, 18, and 20 of U.S. Patent No. 8,581,706 B2 (Ex. 1001, “the ’706 patent”) pursuant to 35 U.S.C. § 311(a). Patent Owner, Aire Technology Ltd., filed a Preliminary Response (Paper 6, “Prelim. Resp.”) pursuant to 35 U.S.C. § 313. With our email authorization of October 13, 2022 (Ex. 1024), Petitioner filed a Reply (Paper 9, “Reply”) and Patent Owner filed a Sur-Reply (Paper 10, “Sur-Reply”) directed solely to an issue regarding whether we should exercise our discretion to deny the Petition under 35 U.S.C. § 314(a).

Pursuant to 35 U.S.C. § 314(a), the Director may not authorize an *inter partes* review unless the information in the petition and preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we institute an *inter partes* review as to claims 1–3, 11, 12, 16, 18, and 20 of the ’706 patent on all grounds of unpatentability asserted in the Petition.

## II. REAL PARTIES-IN-INTEREST

Petitioner identifies itself (Apple, Inc.) as its sole real party-in-interest. Pet. 90. Patent Owner identifies itself (Aire Technology Ltd.) as its sole real party-in-interest. Paper 4, 2.

## III. RELATED MATTERS

The Petition states that the ’706 patent is the subject of the following proceedings:

*Aire Technology Ltd. v. Google LLC*, No. 6-21-01104, W.D. Tex., filed Oct. 25, 2021;

*Aire Technology Ltd. v. Apple, Inc.*, No. 6-21-01101, W.D. Tex., filed Oct. 22, 2021 (“the Apple litigation”);

*Aire Technology Ltd. v. Samsung Electronics co, Ltd. et al.*, No. 6-21-00955 W. D. Tex., filed Sep. 15, 2021;

*Samsung Electronics Co., Ltd. v. Aire Technology Ltd.*,  
IPR2022-00876 (PTAB, May 2, 2022)

*Aire Technology Ltd. v. Garmin International, Inc.*, No. 8-22-01027,  
C.D. Ca., filed May 20, 2022.

Pet. 68. Patent Owner identifies the following additional proceedings as  
“related current and/or former proceedings involving the patent at issue.”

Paper 4, 2–3.

*Samsung Electronics Co., Ltd. v. Aire Technology Ltd.*,  
IPR2022-00874 (PTAB April 22, 2022);

*Samsung Electronics Co., Ltd. v. Aire Technology Ltd.*,  
IPR2022-00875 (PTAB April 22, 2022);

*Samsung Electronics Co., Ltd. v. Aire Technology Ltd.*,  
IPR2022-00877 (PTAB May 2, 2022);

*Apple Inc. v. Aire Technology Ltd.*, IPR2022-01135 (PTAB June 15,  
2022);

*Apple Inc. v. Aire Technology Ltd.*, IPR2022-01136 (PTAB June 15,  
2022).

#### IV. EXERCISE OF DISCRETION

In the Preliminary Response, Patent Owner contends that we should exercise our discretion to deny the Petition in favor of the parallel Apple litigation identified above taking place in the U.S District Court for the Western District of Texas (“the Texas court”). Prelim. Resp. 1–10. The Board has held that the advanced state of a parallel district court action is a

factor that may weigh in favor of denying a petition under § 314(a). *See NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential); Trial Practice Guide, 58 & n.2. We consider the following factors to assess “whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding”:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

*Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). In evaluating these factors, we “take[] a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.* at 6. We consider each of these factors below.

On June 21, 2022, the Director of the USPTO issued several clarifications concerning the application of the *Fintiv* Factors. *See Interim Procedure For Discretionary Denials In AIA Post-Grant Proceedings With Parallel District Court Litigation*, issued June 21, 2022 (“Guidance Memo”)<sup>1</sup>.

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<sup>1</sup> Available at [https://www.uspto.gov/sites/default/files/documents/interim\\_proc\\_discretionary\\_denials\\_aia\\_parallel\\_district\\_court\\_litigation\\_memo\\_20220621.pdf](https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621.pdf).

The Director's memo states that "the precedential impact of *Fintiv* is limited to the facts of that case." Guidance Memo 2. Under the Guidance Memo "the PTAB will not rely on the *Fintiv* factors to discretionarily deny institution in view of parallel district court litigation where a petition presents compelling evidence of unpatentability." Guidance Memo 2.

Compelling, meritorious challenges will be allowed to proceed at the PTAB even where district court litigation is proceeding in parallel. Compelling, meritorious challenges are those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence."

Guidance Memo 4.

The Guidance memo further states,

[c]onsistent with *Sotera Wireless, Inc.*, the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a parallel proceeding the same grounds or any grounds that could have reasonably been raised before the PTAB.

Guidance Memo 7–8. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A).

The Guidance memo also states,

when considering the proximity of the district court's trial date to the date when the PTAB final written decision will be due, the PTAB will consider the median time from filing to disposition of the civil trial for the district in which the parallel litigation resides.

Guidance Memo 8–9<sup>2</sup>. With these factors and guidance in mind, we consider the parties' contentions.

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<sup>2</sup> *See* <https://www.uscourts.gov/statistics-reports/analysis-reports/federal-court-management-statistics>.

As to factors 1 and 2, Patent Owner contends that there is unlikely to be a stay, that a trial in the Apple litigation is scheduled to occur before a final decision will issue in this proceeding, and that the Texas court does not move a trial date, except in extreme situations. Prelim. Resp. 3–6, Sur-reply 1–2. Petitioner contends that generalized evidence that the Texas court denies stays is a neutral factor as to this particular case, and that, although the scheduled trial date is November 6, 2023, statistics indicate that trial is more likely to occur late in February 2024, i.e., after a final decision in this proceeding. Reply 1–2. Petitioner further notes that, even if a trial occurs on the scheduled date, the due date for a final decision in this proceeding is sufficiently close in time as to disfavor denial of institution. *Id.* at 2. Under these circumstances, we find that factors 1 and 2 do not support exercising discretion to deny institution.

As to factors 3 and 4, Patent Owner argues that there is a significant overlap in the substance of the proceedings and that before a decision on institution, the parties will have invested resources to complete claim construction briefing, exchange infringement and invalidity contentions, and that discovery will be underway. Prelim. Resp. 6–9, Sur-reply 3–5. Noting (i) that the Texas court has already delayed a *Markman* claim construction hearing until May 16, 2023, i.e., more than four months after the due date of a decision on institution in this proceeding, and (ii) that fact discovery and expert discovery in the Apple litigation continue for two months and seven months, respectively, after the due date for an institution decision, Petitioner contends that the lack of substantial investment in the Texas litigation weighs against denial of institution. Reply 2–3. As to overlapping issues, Petitioner stipulates that “it will not pursue in the parallel district court proceeding the prior art obviousness combinations on which trial is

instituted for the claims on which trial is instituted. In *Sand*, a nearly identical stipulation was found to effectively address the risk of duplicative efforts.” Reply 3–4 (citing *Sand Revolution II, LLC v. Continental Intermodal Group Trucking LLC*, IPR201901393, Paper 24 at 11–12 (June 16, 2020) (informative) (“*Sand*”). Patent Owner asserts that Petitioner’s “limited stipulation is not ‘nearly identical’ to the stipulation in *Sand*,” because it fails to stipulate that Petitioner “would not pursue any ground raised or that could have been reasonably raised in an IPR, i.e., any ground that could be raised under §§ 102 or 103 on the basis of prior art patents or printed publications.” Sur-reply 4 (citing *Sand* at 12 n.5). In *Sand*, however, although the panel’s footnote stated that a broader stipulation would better address concerns, the panel found Petitioner’s stipulation that it would not pursue in district court litigation the same grounds as those asserted in the IPR “mitigates to some degree the concerns of duplicative efforts” and “weighs marginally in favor of not exercising discretion to deny institution.” *Sand* at 12. In these circumstances, we find that the investment in invalidity issues in the Apple litigation and Petitioner’s stipulation do not support exercising discretion to deny institution. See *Sand* at 10–12.

As to factor 5, it is undisputed that Petitioner is a defendant in the Apple litigation. But this factor alone does not outweigh the other factors that thus far do not support exercising discretion to deny institution. Further as to factor 6, and as discussed in detail below, at this stage of the proceeding, we find that Petitioner has shown that at least some of the ’706 patent claims at issue recite well-known and obvious methods for secure authentication of a user of a portable data carrier. Patent Owner acknowledges that its Preliminary Response does not address the merits of Petitioner’s challenges. Prelim. Resp. 9.

Having weighed the factors above, including the relative timing of the proceedings, the amount of effort that has been and is yet to be expended in the Apple litigation and in this proceeding, Petitioner's stipulation, and the relative merits of Petitioner's un rebutted challenges, we find that, taken as a whole, the factors do not favor exercising discretion to deny institution. In consideration of the above, we decline to exercise discretion to deny institution.

## V. THE '706 PATENT

The '706 patent relates to "a method for contactless communication of at least two applications stored on a common portable data carrier."

Ex. 1001, 1:8–11. The background of the '706 patent explains "that a plurality of applications can be located on a portable data carrier at the same time." *Id.* at 2:5–9. The '706 patent describes that the portable data carrier transmits communication-readiness signals for each of its applications to the reading device. *Id.* at 3:5–20. For example, "a first communication-readiness signal to the reading device is generated for a first of the at least two applications . . . indicating to the reading device the communication readiness of said first application." *Id.* at 3:8–13. Additionally, "a second communication-readiness signal to the reading device is generated for a second of the at least two applications . . . and indicates to the reading device the communication readiness of said second application." *Id.* at 3:13–20. The communication-readiness signals include an application identification number assigned to the corresponding application. *Id.* at 3:5–20. Figure 1 of the '706 patent is reproduced below.

FIG 1

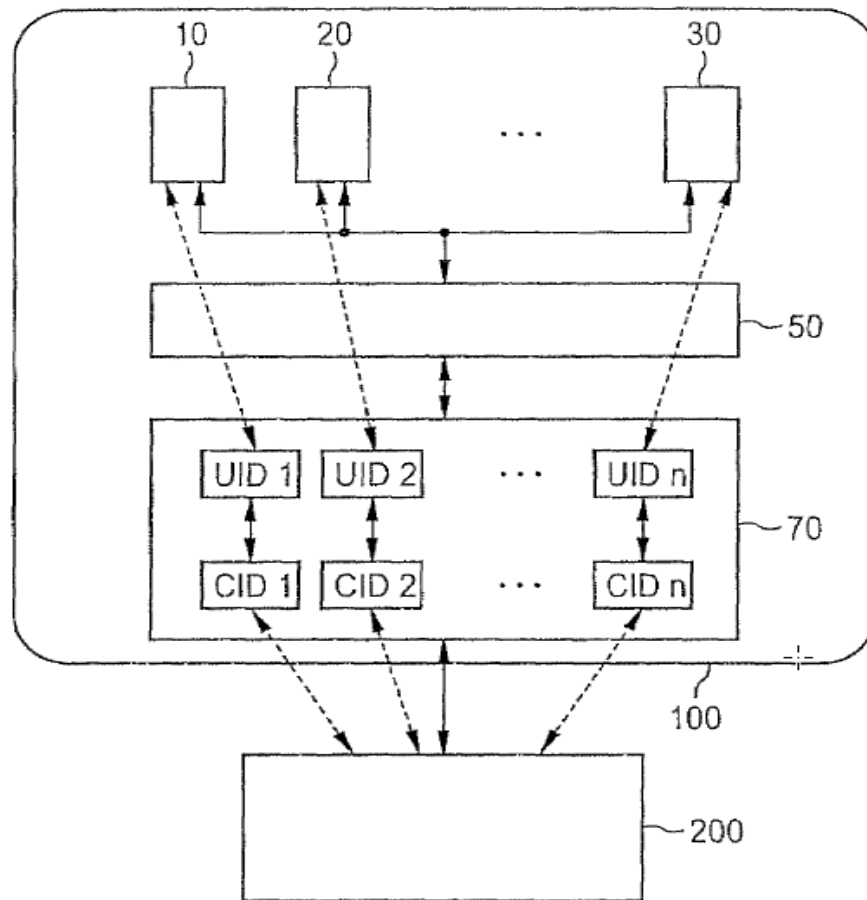


Figure 1 above illustrates data carrier 100 and reading device 200. Ex. 1001, 7:8–10. Applications 10, 20, 30 are located on the data carrier. *Id.* at 7:10–11. Toggling device 50 is set up to toggle between the different applications. *Id.* at 7:12–13. Each of the applications is assigned an identification number UID1, UID2, UIDn, which are managed by communication device 70. *Id.* at 7:14–17. When the reading device enters into communication with one or more applications, the reading device can select them for further communication via the identification numbers and address them by means of session numbers CID1, CID2, CIDn. *Id.* at 7:17–21.

The '706 patent discloses that the communication device 70 of data carrier 100 can be set up to store, in a nonvolatile memory, information about which of the applications 10, 20, 30 last communicated with the reading device 200. Ex. 1001, 9:5–9. This record may then be used to select the application that was most recently used; “It is also possible, however, to first generate a communication-readiness signal for that application 10, 20, 30 with which the reading device 200 actively communicated last.” *Id.* at 9:18–21.

## VI. ILLUSTRATIVE CLAIM

Challenged claim 1 of the '706 patent recites:

1. A method for contactless communication of a reading device with at least two communication-ready applications located on a portable data carrier, comprising the steps:

generating a first communication-readiness signal to the reading device for a first of the at least two applications, the communication-readiness signal comprising a first identification number which is assigned to the first of the at least two applications and indicates to the reading device the communication readiness of said first application, and

generating a second communication-readiness signal to the reading device for a second of the at least two applications, the second communication-readiness signal comprising a second identification number different from the first identification number, which is assigned to said second application and indicates to the reading device the communication readiness of said second application, and

storing information in a nonvolatile memory of the data carrier about which of the at least two applications was last selected for further communication by the reading device,

wherein the reading device selects for further communication one or more of the at least two applications via the identification numbers assigned to the applications.

## VII. ASSERTED GROUNDS

Petitioner asserts that claims 1–3, 11, 12, 16, 18, and 20 of the '706 patent are unpatentable on the following grounds.

| Claim(s) Challenged | 35 U.S.C. § <sup>3</sup> | Reference(s)/Basis                                |
|---------------------|--------------------------|---------------------------------------------------|
| 1–3, 11, 12         | 103(a)                   | Guthery <sup>4</sup> , Nozawa <sup>5</sup>        |
| 16                  | 103(a)                   | Guthery, Nozawa, RFID Handbook <sup>6</sup>       |
| 18                  | 103(a)                   | Guthery, Nozawa, Smart Card Handbook <sup>7</sup> |
| 20                  | 103(a)                   | Guthery, RFID Handbook                            |

## VIII. LEVEL OF ORDINARY SKILL

Petitioner identifies a person of ordinary skill as someone knowledgeable and familiar with the smart card and Radio Frequency Identifier (RFID) arts. Pet. 13. Petitioner states that such a person would have a bachelor's degree in electrical engineering, computer engineering, computer science, or equivalent training, and approximately two years of experience working in the electrical engineering field. Lack of work experience can be remedied by additional education, and vice versa.” *Id.* Patent Owner does not address the level of ordinary skill. *See generally*, Prelim. Resp.

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<sup>3</sup> The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. Because the '249 patent has an effective filing date prior to the effective date of the applicable AIA amendment, we refer to the pre-AIA version of § 103.

<sup>4</sup> U.S. Patent No. 6,824,064 (Ex. 1005)

<sup>5</sup> Japanese Patent Application No. 2000-163539A (Ex. 1006)

<sup>6</sup> *RFID Handbook: Radio-Frequency Identification Fundamentals and Applications*, Klaus Finkenzeller, 1999 (Ex. 1007)

<sup>7</sup> *Smart Card Handbook: Third Edition*, Wolfgang Rankl, 2003 (Ex. 1008)

The level of ordinary skill in the art usually is evidenced by the references themselves. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

As Petitioner’s description of a person of ordinary skill appears commensurate with the subject matter before us, we apply Petitioner’s definition for purposes of this Decision.

### IX. CLAIM CONSTRUCTION

We interpret claim terms using “the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2019). In this context, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (citations omitted) (en banc). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317 (citations omitted).

We construe only those claim terms that require analysis to determine whether to institute inter partes review. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”). Any special definition for a claim

term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner submits that the terms of the challenged claims should be given their plain and ordinary meaning, and no terms require specific construction. Pet. 13–14. For purposes of this Decision, we agree that no construction is necessary.

## X. ANALYSIS

### A. *Legal Standards*

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)); *see also* 37 C.F.R. § 42.104(b) (requiring a petition for *inter partes* review to identify how the challenged claim is to be construed and where each element of the claim is found in the prior art patents or printed publications relied upon).

A claim is unpatentable under 35 U.S.C. § 103(a) if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective evidence

of obviousness or nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). An obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418.

Additionally, the obviousness inquiry typically requires an analysis of “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2016) (requiring “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)). Furthermore, Petitioner does not satisfy its burden of proving obviousness by employing “mere conclusory statements,” but “must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

*B. Claims 1–3, 11, 12 As Obvious Over Guthery and Nozawa*

*1. Guthery – Exhibit 1005*

Guthery relates to a “multi-application integrated circuit card (‘smart card’) [that] contains a plurality of application programs.” Ex. 1005, 2:42–43. Guthery discloses that its smart card can be presented to a smart card reader, which reads the smart card through wireless means or electrical contacts. *Id.* at 6:42–47. In Guthery’s system, “[w]hen a smart card is electrically activated, . . . the card manager 34 sends to the [smart card reader] an application-identification packet 60 for each application 32 on the smart card that identifies the application” with an “application index.” *Id.* at

8:32–39. The reader is then aware of each application on the smart card, and can then select the desired application for further communication using the application index. *Id.* at 8:60–64.

To select an application with which to communicate, the reader sends a request-to-send packet to the smart card that identifies the application by its application index. Ex. 1005, 8:66–9:2. Then, the identified application generates and sends a “permission-to-send packet . . . when the application is ready” to communicate with the reader. *Id.* at 9:9–11. The permission-to-send packet “contains the application index 82 of the application sending the packet 80.” *Id.* at 9:14–16. This process flow is shown in Fig. 14A below.

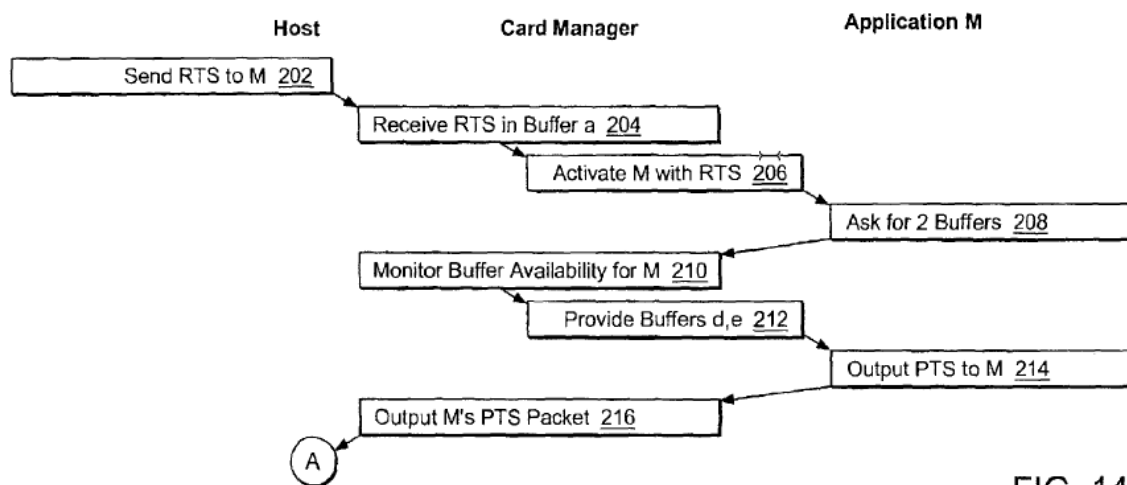


FIG. 14A

As shown in Figure 14A above, after receiving the request-to-send packet from a host, the smart card performs a series of steps before it outputs the permission-to-send packet to the host. Ex. 1005, 12:17–36. These steps include receiving the request-to-send packet in a buffer at step 204, activating application M at step 206, having application M ask for buffers at step 208, monitoring buffer availability at step 210, providing buffers at 212, and having application M output the permission-to-send packet to the card manager at step 216. *Id.*

2. *Nozawa – Exhibit 1006*

Nozawa “relates to IC cards, and particularly to an IC card having a CPU and a memory, and in which a plurality of application programs stored in the memory can be selectively executed by the CPU.” Ex. 1006 ¶ 1. Nozawa discloses that when an external apparatus such as a reader desires to communicate with an application on the IC card, it can send an application-selection command to the IC card to select the desired application. *Id.* ¶ 6. The IC card also has a function for automatically selecting an application having a high probability of being selected by the reader, so that, if the application that has been automatically selected by the IC card is the application that the reader desires to communicate with, then the reader does not need to send the application-selection command to the IC card. *Id.* ¶¶ 19, 22, 25. Nozawa discloses that one candidate with a high probability of being selected is the most recently selected application. *Id.* ¶ 22. Nozawa discloses maintaining a record of recently used applications in order to select the application having a high probability of being selected by the reader, such as the most recently selected or the most frequently selected application. *Id.* ¶¶ 16, 20, 22, 25.

3. *Reasons to Combine the Teachings of Guthery and Nozawa*

Petitioner contends a person of ordinary skill would have had reason to combine the teachings of Guthery and Nozawa because both references concern multi-application smart cards. Pet. 31. Petitioner contends that Guthery’s smart card waits until it receives a request-to-send packet from a smart card reader before it begins initializing the application identified in the packet. *Id.* at 32 (citing Ex. 1005, 9–12, 12:17–59, Figs. 14A, 15). Petitioner contends that a person of ordinary skill would have recognized

that this process can waste time and resources, especially in situations where one application is utilized more than another. *Id.* (citing Ex. 1003, Phinney Decl. ¶¶ 52–53). Petitioner contends that a person of ordinary skill would have modified Guthery’s process to identify and initialize an application most likely to be selected by the smart card reader as taught by Nozawa to preemptively transmit a permission-to-send packet from the application to the reader without waiting to receive the request-to-send packet from the reader, thus improving efficiency and reducing latency. *Id.* at 33 (citing Ex. 1003, Phinney Decl. ¶¶ 55).

Petitioner contends that a person of ordinary skill would have had a reasonable expectation of success in making the combination because Nozawa’s technique was meant to improve multi-application smart card systems like Guthery’s. *Id.* at 34. According to Petitioner, Guthery includes the specific inefficiency noted by Nozawa, namely, that a waiting time is required for the smart card to receive a request-to-send packet from the reader, initialize the application identified in the packet, and transmit a response to the reader, before work can begin. *Id.*; *see id.* at 31–32 (citing Ex. 1006 ¶ 7; Ex. 1003, Phinney Decl. ¶¶ 52–53). Petitioner contends that the combination represents applying Nozawa’s known technique of automatically selecting an application based on selection history to Guthery’s multi-application smart card to yield the predictable result of initializing the selected application prior to receiving a request-to-send packet, thus improving efficiency and reducing latency at the start of a new communication session. *Id.* at 34–35 (citing Ex. 1003, Phinney Decl. ¶¶ 58–60).

For purposes of this Decision, we find Petitioner cites sufficient evidence to support its contention that a person of ordinary skill would have had reason to combine the teachings of Guthery and Nozawa.

#### 4. *Claim 1*

The preamble of claim 1 recites a “method for contactless communication of a reading device with at least two communication-ready applications located on a portable data carrier, comprising the steps.” Petitioner contends that Guthery discloses the preamble in describing a smart card having a plurality of applications, where the smart card wirelessly transmits permission-to-send packets to a smart card reader to indicate that the applications are ready for communication. *Id.* at 35–38 (citing Ex. 1005, 2:52–54, 3:44–48, 6:42–46, 7:3–9, 9:9–12, Figs. 1, 2, 15A–15C). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that Guthery discloses the features recited in the preamble of claim 1.<sup>8</sup>

Claim 1 recites “generating a first communication-readiness signal to the reading device for a first of the at least two applications,” where the communication-readiness signal comprises “a first identification number which is assigned to the first of the at least two applications and indicates to the reading device the communication readiness of said first application.” Petitioner contends that Guthery discloses this limitation in describing that the application transmits a permission-to-send packet that indicates the application is ready to receive information, where the permission-to-send

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<sup>8</sup> Because Petitioner has shown that the recitations in the preambles are satisfied by the prior art, we need not determine whether the preamble are limiting at this time. *See Vivid Techs.*, 200 F.3d at 803.

packet includes an application index that identifies the application. Pet. 38–41 (citing Ex. 1005, 3:27–40, 3:44–48, 9:7–12, 9:14–16, 9:35–39, 12:30–36, Fig. 9). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that Guthery discloses this limitation of claim 1.

Claim 1 recites “generating a second communication-readiness signal to the reading device for a second of the at least two applications,” where the second communication-readiness signal comprises “a second identification number different from the first identification number, which is assigned to said second application and indicates to the reading device the communication readiness of said second application.” Petitioner contends that Guthery discloses this limitation in describing that a first application M on the smart card generates a first permission-to-send packet when it is ready to receive data, and a second application N generates a second permission-to-send packet when it is ready to receive data, where each permission-to-send packet carries the corresponding application’s unique index. Pet. 41–44 (citing Ex. 1005, 3:44–48, 12:54–59, Figs. 15A–15C). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that Guthery discloses this limitation of claim 1.

Claim 1 recites “storing information in a nonvolatile memory of the data carrier about which of the at least two applications was last selected for further communication by the reading device.” Petitioner contends that the combination of Guthery and Nozawa teaches this limitation. Pet. 44–47. Petitioner contends that Guthery teaches that the smart card includes an EEPROM non-volatile memory. *Id.* at 44–45 (citing Ex. 1005, 6:62–66). Petitioner contends that Nozawa teaches storing a time and date in EEPROM

each time a specific application is selected, so that the smart card can automatically select the application that was most recently selected by the smart card reader. *Id.* at. 45–47 (citing Ex. 1006 ¶¶ 9, 16, 20–22). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that the combination of Guthery and Nozawa teaches this limitation of claim 1.

Claim 1 recites “wherein the reading device selects for further communication one or more of the at least two applications via the identification numbers assigned to the applications.” Petitioner contends that the combination of Guthery and Nozawa teaches this limitation. Pet. 47–50. Petitioner contends that Guthery’s smart card as modified by the teachings of Nozawa preemptively sends a permission-to-send packet for an initial application M without waiting for a request-to-send packet. Pet. 48 (citing Ex. 1003, Phinney Decl. ¶ 82). Petitioner contends that for further communication with another application N, Guthery’s smart card would wait to receive a request-to-send packet for N as normal. *Id.* at 48–50 (citing Ex. 1005, Figs. 15A, 15B; Ex. 1003, Phinney Decl. ¶¶ 82–83). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that the combination of Guthery and Nozawa teach this limitation of claim 1.

Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that a person of ordinary skill would have had reason to combine the teachings of Guthery and Nozawa and that their combined teachings would have taught or suggested the features recited in claim 1 to an ordinarily skilled artisan.

5. *Claim 2*

Claim 2 depends from claim 1 and recites “wherein upon new communication of the reading device with the data carrier, a communication-readiness signal is emitted first for one of the at least two applications that is different from the application designated by the stored information.” Petitioner contends that Guthery as modified by Nozawa teaches transmitting a permission-to-send packet for the application having the highest selection frequency rather than for the application designated by the stored information as the most recently used. Pet. 50–52 (citing Ex. 1006 22, 25; Ex. 1003, Phinney Decl. ¶¶ 87–91). Based on the current record, we find that, for purposes of institution, Petitioner has demonstrated that a person of ordinary skill would have had reason to combine the teachings of Guthery and Nozawa and that their combined disclosures teach the limitations recited in claims 2.

6. *Claim 3*

Claim 3 depends from claim 1 and recites “wherein, upon new communication of the reading device with the data carrier, a communication-readiness signal is emitted first for the application with which active communication was effected last.” Petitioner contends that Guthery as modified by Nozawa teaches transmitting a permission-to-send signal for the most recently used application. Pet. 52–54 (citing Ex. 1003, Phinney Decl. ¶¶ 92–98). Based on the current record, we find that, for purposes of institution, Petitioner has demonstrated that a person of ordinary skill would have had reason to combine the teachings of Guthery and Nozawa and that their combined disclosures teach the limitations recited in claim 3.

7. *Claim 11*

Claim 11 recites a “contactlessly communicating portable data carrier, comprising at least two applications stored thereon and a communication device configured to control communication between a reading device and the at least two applications.” Petitioner contends that Guthery teaches this limitation in disclosing a smart card with a plurality of applications, where the smart card has a card manager that utilizes a port and driver to communicate wirelessly with a smart card reader. Pet. 54–57 (citing Ex. 1005, 2:52–54, 6:42–46, 6:60–7:9, 7:24–32, Figs. 1, 2). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that Guthery discloses this limitation of claim 11.

Claim 11 recites “wherein the communication device is set up to generate communication-readiness signals to the reading device which in each case indicate to the reading device a communication readiness for one of the applications and comprise an identification number assigned to the corresponding communication-readiness application.” Petitioner contends that Guthery discloses this limitation in describing that each permission-to-send packet includes an application index identifying a corresponding application that is ready to receive information. Pet. 57–62 (citing Ex. 1005, 3:27–40, 3:44–48, 7:25–32, 9:7–12, 9:14–16, 9:35–39, 12:30–36, 12:54–59, Figs. 9, 15A–15C). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that Guthery discloses this limitation of claim 11.

Claim 11 recites “wherein the communication device is set up to store information in a nonvolatile memory of the data carrier about which of the at least two applications last communicated with a reading device.” Petitioner

contends that Guthery as modified by Nozawa teaches storing information about the most recently selected application. Pet. 62–63 (citing Ex. 1003, Phinney Decl. ¶¶ 111–112). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that the combination of Guthery and Nozawa teaches this limitation of claim 11.

Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that a person of ordinary skill would have had reason to combine the teachings of Guthery and Nozawa and that their combined teachings would have taught or suggested the features recited in claim 11 to an ordinarily skilled artisan.

#### 8. *Claim 12*

Claim 12 depends from claim 11 and recites “wherein the communication device is set up to emit, upon new contacting of a reading device with the data carrier, a communication-readiness signal first for one of the at least two applications that is different from the application designated by the stored information.” Petitioner contends that this limitation is similar to that recited in claim 2, and that the combination of Guthery and Nozawa teaches this limitation for the reasons given in Petitioner’s analysis of claim 2. Pet. 63–64 (citing Ex. 1003, Phinney Decl. ¶ 113). Based on the current record, we find that, for purposes of institution, Petitioner has demonstrated that a person of ordinary skill would have had reason to combine the teachings of Guthery and Nozawa and that their combined disclosures teach the limitations recited in claim 12.

*C. Claim 16 As Obvious Over Guthery, Nozawa, and RFID Handbook*

*1. RFID Handbook – Exhibit 1007*

The RFID Handbook describes memory structures of portable data carriers such as smart cards. Ex. 1007, 14, 15. The RFID Handbook explains that “it is possible to divide the entire memory into small units called segments, and protect each of these from unauthorized access with a separate key.” Ex. 1007, 15. Segmented memory “permits data from different applications to be stored completely separately.” *Id.* As a result, “a reader belonging to one application can only gain access to its ‘own’ segment if it only knows the application’s own key.” *Id.* at 16.

*2. Reason to Combine the Teachings of RFID Handbook with Guthery and Nozawa*

Petitioner contends that Guthery discloses a smart card including a non-volatile EEPROM memory and one or more applications. Pet. 67 (citing Ex. 1005, 6:60–7:4). Petitioner contends that a person of ordinary skill would have recognized that the applications would have been stored in the non-volatile EEPROM memory, so that the applications remain on the card even when the card is powered down. *Id.* at 67–68 (citing Ex. 1003, Phinney Decl. 122). Petitioner contends that the RFID Handbook teaches dividing EEPROM memory into segments to permit data from different applications to be stored separately to reduce the risk of unauthorized access. *Id.* at 68 (citing Ex. 1007 15–16). Petitioner contends that a person of ordinary skill would have segmented the memory in the EEPROM of Guthery such that each application corresponds to its own segment as taught by the RFID Handbook to yield the predictable benefit of effectively isolating each application to provide enhanced security as taught by the

RFID Handbook. *Id.* (citing Ex. 1003, Phinney Decl. ¶¶ 123–124).

Petitioner contends that a person of ordinary skill would have had a reasonable expectation of success when combining the teachings of RFID Handbook and Guthery because the RFID Handbook describes techniques commonly implemented on smart cards such as Guthery's. *Id.* at 68–69 (citing Ex. 1003, Phinney Decl. ¶ 125).

For purposes of this Decision, we find Petitioner cites sufficient evidence to support its contention that a person of ordinary skill would have had reason to combine the teachings of Guthery, Nozawa, and RFID Handbook.

### 3. *Claim 16*

Claim 16 depends from claim 11 and recites “including a memory which is divided into sectors, each of the sectors having no more than one of the at least two applications stored therein.” Petitioner contends that Guthery as modified by the RFID Handbook teaches a smart card including an EEPROM divided into segments, where each application corresponds to its own segment in order to reduce the risk of unauthorized access. Pet. 70–73 (citing Ex. 1005, 6:64–66, 7:3–9; Ex. 1007, 15–17; Ex. 1003, Phinney Decl. ¶¶ 127–33). Based on the current record, we find that, for purposes of institution, Petitioner has demonstrated that a person of ordinary skill would have had reason to combine the teachings of Guthery, Nozawa, and the RFID Handbook, and that their combined disclosures teach the limitations recited in claim 16.

*D. Claim 18 As Obvious Over Guthery and the Smart Card Handbook*

*1. Smart Card Handbook – Exhibit 1008*

The Smart Card Handbook is a “book ... written for students, engineers and technically minded persons who want to learn more about smart cards.” Ex. 1008, 5. One aspect of smart cards described by the Smart Card Handbook is the relationship between a smart card and a SIM (subscriber identity module) card in a mobile phone. *Id.* at 13. The Smart Card Handbook describes a SIM card as a type of smart card that performs communication and security-related tasks within the mobile phone. *Id.* at 13. The Smart Card Handbook describes a SIM card as a mandatory security module within a mobile phone. *Id.* at 13.

*2. Reason to Combine the Teachings of Guthery and the Smart Card Handbook*

Petitioner contends that Guthery describes using a smart card as a SIM card and the Smart Card Handbook provides additional implementation details on using smart cards as SIM cards in accordance with GSM standards to act as a security module and to request services from a handset. Pet. 75–78 (citing Ex. 1005, 6:37–41; Ex. 1008, 10, 11, 13; Ex. 1003, Phinney Decl. ¶¶ 141, 143, 145). Petitioner contends that a person of ordinary skill would have had a reasonable expectation of success in combining the teachings of Guthery and the Smart Card Handbook because doing so would be applying GSM 11.14 standard commands to Guthery’s GSM 11.14 SIM card. *Id.* at 78 (citing Ex. 1005, 1:66–2:4, 8:9–10; Ex. 1008, 11). Petitioner contends that the combination represents applying the known technique of configuring a SIM card as a security module as taught by the Smart Card Handbook to

Guthery's known SIM card within a mobile phone to comply with GSM standards. *Id.* at 78 (citing Ex. 1003, Phinney Decl. ¶¶ 140–147).

For purposes of this Decision, we find Petitioner cites sufficient evidence to support its contention that a person of ordinary skill would have had reason to combine the teachings of Guthery and the Smart Card Handbook.

### 3. *Claim 18*

Claim 18 recites a “contactlessly communicating portable data carrier, comprising at least two applications stored thereon and a communication device configured to control communication between a reading device and the at least two applications.” Petitioner contends that claim 11 recites a similar limitation, and that Guthery discloses this limitation for the reasons given in Petitioner's analysis of claim 11. Pet. 78 (citing Pet. 54–56; Ex. 1003, Phinney Decl. ¶ 148). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that Guthery discloses this limitation of claim 18.

Claim 18 recites “wherein the communication device is set up to generate communication-readiness signals to the reading device which in each case indicate to the reading device a communication readiness for one of the applications and comprise an identification number assigned to the corresponding communication-readiness application.” Petitioner contends that claim 11 recites a similar limitation, and that Guthery discloses this limitation for the reasons given in Petitioner's analysis of claim 11. Pet. 78–79 (citing Pet. 57–62; Ex. 1003, Phinney Decl. ¶ 149). Based on the evidence and arguments currently of record, for purposes of institution, we

find that Petitioner has demonstrated that Guthery discloses this limitation of claim 18.

Claim 18 recites “wherein the data carrier is configured as a security module in a device comprising a communication device configured for contactless communication, the security module having software configured to communicate contactlessly via the communication device of the device.” Petitioner contends that the combination of Guthery and the Smart Card Handbook teaches a smart card configured as a security module when used as a SIM card in a mobile phone, and that the mobile phone would communicate wirelessly. Pet. 80–81 (citing Ex. 1003, Phinney Decl. ¶¶ 152–153). Petitioner contends that Guthery’s card manager would manage all communications to and from the smart card implemented as a SIM card in a mobile phone. *Id.* at 81–84 (citing Ex. 1003, Phinney Decl. ¶¶ 156–157). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that the combination of Guthery and the Smart Card Handbook teaches this limitation of claim 18.

Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that a person of ordinary skill would have had reason to combine the teachings of Guthery and the Smart Card Handbook and that their combined teachings would have taught or suggested the features recited in claim 18 to an ordinarily skilled artisan.

*E. Claim 20 As Obvious Over Guthery and the RFID Handbook*

Claim 20 recites a “contactlessly communicating portable data carrier, comprising at least two applications stored thereon and a communication device configured to control communication between a reading device and

the at least two applications.” Petitioner contends that claim 11 recites a similar limitation, and that Guthery discloses this limitation for the reasons given in Petitioner’s analysis of claim 11. Pet. 84 (citing Pet. 54–56; Ex. 1003, Phinney Decl. ¶ 159). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that Guthery discloses this limitation of claim 20.

Claim 20 recites “wherein the communication device is set up to generate communication readiness signals to the reading device which in each case indicate to the reading device a communication readiness for one of the applications and comprise an identification number assigned to the corresponding communication-readiness application.” Petitioner contends that claim 11 recites a similar limitation, and that Guthery discloses this limitation for the reasons given in Petitioner’s analysis of claim 11. Pet. 84 (citing Pet. 57–62; Ex. 1003, Phinney Decl. ¶ 160). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that Guthery discloses this limitation of claim 20.

Claim 20 recites “wherein the data carrier is configured as an electronic device with a contactless interface for communication with a reading device and with a plurality of memories, each of the memories having no more than one of the at least two applications stored therein in each case.” Petitioner contends that the combination of Guthery describes a smart card having multiple applications that wirelessly communicate with a smart card reader, and the RFID Handbook teaches partitioning the memory of the smart card into segments, such that each application corresponds to its own segment, in order to yield the benefit of reducing the risk of unauthorized access as discussed in Petitioner’s analysis of claim 16.

Pet. 85–88 (citing Pet. 66–69; Ex. 1003, Phinney Decl. ¶¶ 166–167). Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that the combination of Guthery and the RFID Handbook teaches this limitation of claim 20.

Based on the evidence and arguments currently of record, for purposes of institution, we find that Petitioner has demonstrated that a person of ordinary skill would have had reason to combine the teachings of Guthery and the RFID Handbook and that their combined teachings would have taught or suggested the features recited in claim 20 to an ordinarily skilled artisan.

## XI. CONCLUSION

Based on the arguments presented in the Petition, we conclude that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one claim of the '706 patent challenged in the Petition. Accordingly, we institute a trial on all claims and all grounds asserted in the Petition. The Board has not made a final determination under 35 U.S.C. § 318(a) with respect to the patentability of the challenged claims.

## XII. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–3, 11, 12, 16, 18, and 20 of the '706 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '706 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

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