

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

RFCYBER CORP.,
Patent Owner.

IPR2022-00413
Patent 9,240,009 B2

Before KEVIN F. TURNER, PATRICK R. SCANLON, and
KEVIN W. CHERRY, *Administrative Patent Judges*.

CHERRY, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

This is a Final Written Decision in an *inter partes* review challenging the patentability of claims 1–17 (collectively, “the challenged claims”) of U.S. Patent No. 9,240,009 B2 (“the ’009 patent,” Ex. 1001). We have jurisdiction under 35 U.S.C. § 6. We issue this Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner demonstrates, by a preponderance of the evidence, that claims 1–17 are unpatentable.

A. Procedural History

Apple Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review under 35 U.S.C. § 311. RFCyber Corp. (“Patent Owner”) filed a Preliminary Response (Paper 9, “Prelim. Resp.”). On July 21, 2022, we instituted an *inter partes* review of the challenged claims. Paper 12 (“Institution Decision” or “Dec.”).

Following institution, Patent Owner filed a Response (Paper 16, “PO Resp.”), Petitioner filed a Reply (Paper 23, “Reply”), and Patent Owner filed a Sur-reply (Paper 25, “Sur-reply”).

We heard oral argument on April 21, 2023, and the record includes a transcript of the argument. Paper 32 (“Tr.”).

B. Related Matters

The parties identify the following district-court proceedings as related matters involving the ’009 patent: *RF Cyber Corp. v. Apple, Inc.*, Case No. 6:21-cv-00916-ADA (W.D. Tex.); *RF Cyber Corp. v. Google LLC*, No. 2:20-cv-00274 (EDTX); *RF Cyber Corp. v. LG Electronics, Inc.*, No. 2:20-cv-00336 (EDTX); and *RF Cyber Corp. v. Samsung Electronics Co.*, 2:20-cv-00335 (EDTX). Pet. 2–3; Paper 6, 1 (Patent Owner’s Mandatory Notices).

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The parties also identify the following Board proceedings involving petitioner Google LLC and related patents: IPR2021-00954 (U.S. Patent No. 8,448,855 B1); IPR2021-00955 (U.S. Patent No. 9,189,787 B1); IPR2021-00956 (U.S. Patent No. 9,240,009 B2); IPR2021-00957 (U.S. Patent No. 8,118,218 B2); IPR2021-00978 (Patent No. 8,448,855); IPR2021-00979 (Patent No. 8,118,218); IPR2021-00980 (Patent No. 9,189,787); PGR2021-00028 (U.S. Patent No. 10,600,046 B2); and PGR2021-00029 (U.S. Patent No. 10,600,046 B2). Pet. 2–3; Paper 6, 1. Petitioner also identifies the following Board proceedings involving the '009 patent or related patents, filed by Samsung Electronics America, Inc. et al.: IPR2021-00978 (U.S. Patent No. 8,448,855 B1); IPR2021-00979 (U.S. Patent No. 8,118,218 B2); IPR2021-00980 (U.S. Patent No. 9,189,787 B1); and IPR2021-00981 (U.S. Patent No. 9,240,009 B2). Pet. 3–4; Paper 4, 2–3.

C. Real Parties in Interest

Petitioner identifies its real party in interest as Apple Inc. Paper 11 (Petitioner's Updated Mandatory Notice), 2.

Patent Owner identifies RFCyber Corp. as its real party in interest. Paper 6, 1.

D. The '009 Patent (Ex. 1001)

The '009 patent relates to commerce over networks, and more specifically, techniques for personalizing a secure element and provisioning an application such as an electronic purse that can be used in portable devices configured for both electronic commerce (a.k.a., e-commerce) and mobile commerce (a.k.a., m-commerce). Ex. 1001, code (57), 1:18–24.

The '009 patent states that there is a “need to provide techniques to personalize a secure element in a contactless smart card or an NFC (Near

Field Communication)-enabled mobile device so that such a device is so secured and personalized when it comes to financial applications or secure transactions.” *Id.* at 2:10–14. Although closed systems—such as smart card technology—existed, they were “difficult to be expanded into other areas such as e-commerce and m-commerce” because “stored values and transaction information are stored in data storage of each tag that is protected by a set of keys,” which keys must be “delivered to the card for authentication before any data can be accessed during a transaction.” *Id.* at 1:33–40. According to the ’009 patent, this required delivery of keys “makes systems using such technology difficult to be expanded to an open environment such as the Internet for e-commerce and/or wireless networks for m-commerce as the delivery of keys over a public domain network causes security concerns.” *Id.* at 1:40–44. The ’009 patent purports to overcome the limitations of the prior art by providing “techniques for personalizing secure elements in NFC devices to enable various secure transactions over a network (wired and/or wireless network).” *Id.* at 2:31–34.

Figure 1A, reproduced below, provides a schematic view of one embodiment of the ’009 patent.

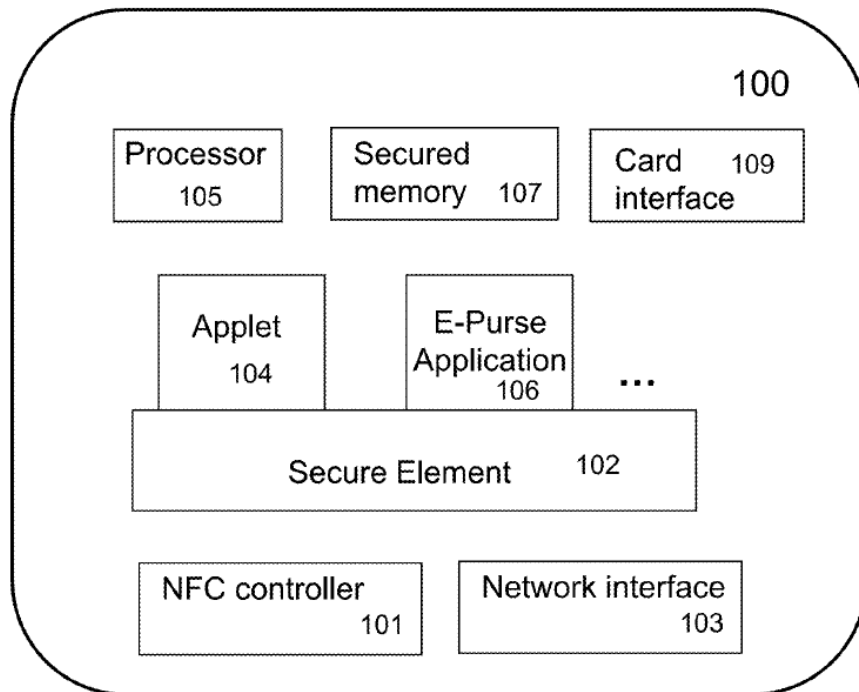


FIG. 1A

FIG. 1A shows a simplified architecture diagram of computing device 100 according to one embodiment of the '009 patent. Ex. 1001, 4:35–36.

As shown in Figure 1A, mobile device 100 includes near field communication (NFC) controller 101 that enables device 100 to interact with another device wirelessly to exchange data with. *Id.* at 6:40–42. A user may use mobile device 100 as an e-purse or a wallet to pay for a purchase or an admission. *Id.* at 6:43–44. In operation, the e-purse is controlled by secure element (SE) 102. *Id.* at 6:44–46. SE 102 may take the form of a smart card, an integrated circuit (IC), or a software module, upgradable by overwriting some of all of the components. *Id.* at 6:59–61. “In one embodiment, the SE 102 is a tamper proof Smart Card chip capable to embed smart card-grade applications (e.g., payment, transport ...) with the required level of security and features.” *Id.* at 6:61–64.

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