

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS
AMERICA, INC., SAMSUNG RESEARCH AMERICA, INC.,
Petitioner,

v.

DYNAMICS, INC.,
Patent Owner.

Case IPR2020-00504
Patent 10,223,631 B2

Before TREVOR M. JEFFERSON, GEORGIANNA W. BRADEN, and
JON M. JURGOVAN, *Administrative Patent Judges*.

JEFFERSON, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner, Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Research America, Inc., filed a Petition requesting *inter partes* review of claims 1–7, 9–13, 19, 21, and 22 (“the challenged claims”) of U.S. Patent No. 10,223,631 B2 (Ex. 1001, the “’631 Patent”). Paper 1 (“Petition” or “Pet.”). Patent Owner, Dynamics Inc., filed a Preliminary Response to the Petition. Paper 8 (“Prelim. Resp.”). On August 12, 2020, we instituted *inter partes* review of the challenged claims of the ’631 Patent. Paper 11 (“Dec.”).

Following institution, Patent Owner filed its Response to the Petition. Paper 18 (“PO Resp.”). Petitioner filed a Reply to Patent Owner’s Response, and Patent Owner filed a Sur-Reply. Paper 20 (“Reply”); Paper 21 (“Sur-Reply”). An Oral Hearing took place on May 12, 2021. The Hearing Transcript is included in the record. Paper 29 (“Tr.”).

After considering the parties’ arguments and supporting evidence, we determine that Petitioner has proved by a preponderance of the evidence that claims 1–7, 9–13, 19, 21, and 22 are unpatentable. 35 U.S.C. § 316(e) (2018); 37 C.F.R. § 42.1(d) (2019).

II. BACKGROUND

A. Related Proceedings

Petitioner informs us of one pending district court proceedings based on the ’631 Patent that involves Petitioner, *Dynamics Inc. v. Samsung Elecs. Co., Ltd. et al.*, Case No. 1:19-cv-6479 (S.D.N.Y.), filed July 12, 2019, which was stayed on September 4, 2019. Pet. 72–73. Petitioner also informs us of one proceeding pending before the International Trade

Commission (“ITC”), *In re Certain Mobile Devices With Multifunction Emulators*, Inv. No. 337-TA-1170 (U.S.I.T.C.), filed July 12, 2019. *Id.*

According to Petitioner, an initial determination in the ITC case is expected on or around August 14, 2020. *Id.* Petitioner further informs us of concurrently pending *inter partes* review proceedings directed to the three other patents asserted in the above-referenced District Court and ITC cases. *Id.*

Patent Owner informs us of the same pending proceedings listed above. Paper 6 (Patent Owner’s Mandatory Notices), 2–3.

B. The ’631 Patent

The ’631 Patent was filed on August 1, 2016 from a continuation filed July 25, 2012, issued on March 5, 2019, and is titled “Cards and Devices with Multifunction Magnetic Emulators and Methods for Using Same.” Ex. 1001, codes (22), (45), (54). The ’631 Patent relates to

A payment card (e.g., credit and/or debit card) is provided with a magnetic emulator operable of communicating information to a magnetic stripe reader. Information used in validating a financial transaction is encrypted. . . . Such dynamic information may be communicated using such an emulator such that a card may be swiped through a magnetic stripe reader—yet communicate different information based on time. An emulator may receive information as well as communicate information to a variety of receivers (e.g., an RFID receiver).

Ex. 1001, Abstract. The ’631 Patent discloses “a card is provided, such as a credit card or security card, that may transmit information to a magnetic stripe reader via a magnetic emulator.” *Id.* at 1:28–36.

The ’631 Patent states that “[t]he magnetic emulator may be, for example, a circuit that emits electromagnetic fields operable to electrically

couple with a read-head of a magnetic stripe reader such that data may be transmitted from the circuit to the magnetic stripe reader.” *Id.* at 1:30–34. The ’631 Patent also states that the magnetic emulator may also “be operated to electrically couple, and transmit data to, a device using a Radio Frequency Identification (RFID) protocol.” *Id.* at 2:9–16. The ’631 Patent specification further states that the magnetic emulator may be swiped through a magnetic stripe reader to communicate data, “placed outside and within the proximity of (e.g., 0.25 inches) the read-head.” *See id.* at 2:2–6, 4:29–33.

Figure 7 shows the electrical coupling between a card and a reader of the invention.

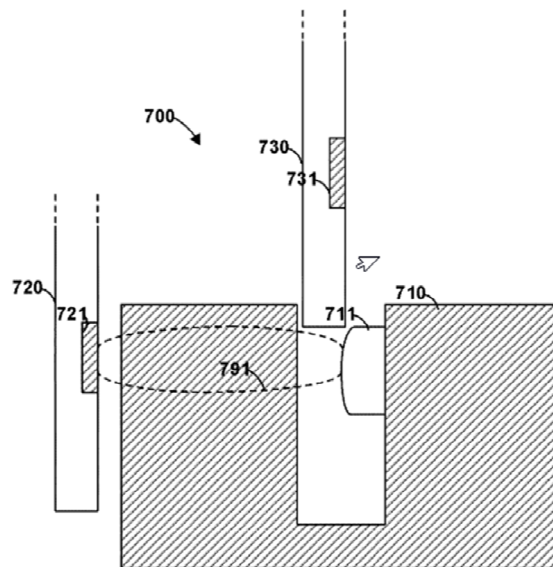


FIG. 7

Figure 7 depicts “cards 720 and 730 as well as magnetic stripe reader 710. Read-head housing 711 may be included on a wall of a trough of magnetic

stripe reader 710.” *Id.* at 8:24–27. Card 720 shows emulator 721 that provides electromagnetic field 791 capable of transmitting through the housing of the magnetic stripe reader 710, thus card 720 may be outside of the reader and operable to communicate through the outer wall of a thickness of a quarter inch or more. *Id.* at 8:29–39.

The ’631 Patent describes that the invention could be implemented in devices other than cards, such as “a portable telephonic device, portable media player, or any type of electronic device.” *Id.* at 2:48–51, 12:32–34. Figure 12 shows a personal electric device in accordance with the invention. *Id.* at 3:35–37.

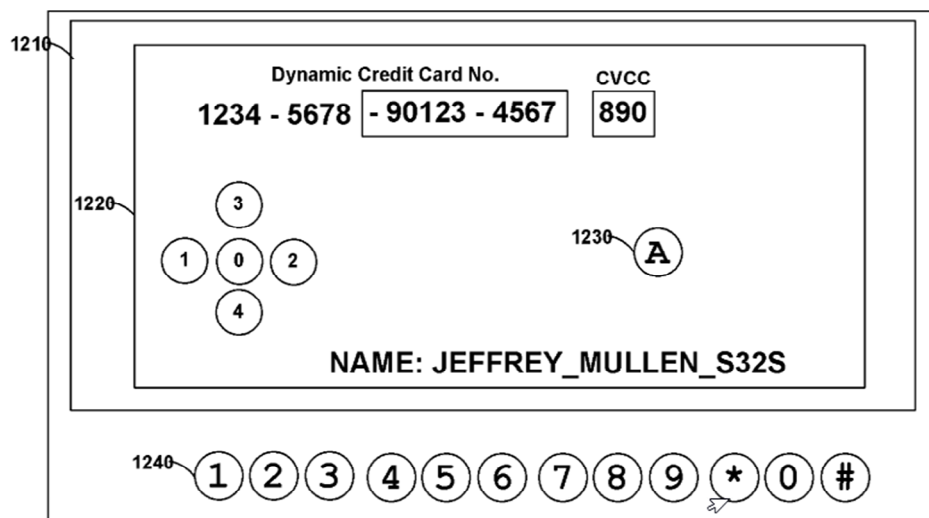


FIG. 12

Figure 12 shows personal electronic device 1200, with user inputs 1240, display 1210, and virtual card 1220. *Id.* at 12:37–40. “Personal electronic device 1200 may communicate to a card reader such as . . . an RFID reader.” *Id.* at 12:45–46.

C. Illustrative Claim

Independent claim 1 is illustrative.

1. An apparatus comprising;
a structure for receiving manual input;
a dynamic magnetic stripe communication device;
and
a processor for controlling the dynamic magnetic stripe communication device,
wherein the dynamic magnetic stripe communication device is operable to electrically couple to a payment terminal when the dynamic magnetic stripe communication device is located outside and within proximity of the payment terminal and to serially communicate first magnetic stripe track data and second magnetic stripe track data while electrically coupled to the payment terminal.

Ex. 1001, 14:45–57.

D. Asserted Challenges to Patentability

We instituted *inter partes* review based on information presented in the Petition that identified claims of the '631 Patent are challenged on the basis listed below. Pet. 8; Dec. 6–7, 41–42.

Reference(s)/Basis	35 U.S.C. § ¹	Claim(s) Challenged
Moulette ²	103	1–3, 9–10, 12–13, 19, 21
Zellner, ³ Moulette	103	1, 4–7, 10, 11, 22

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (September 16, 2011) (“AIA”), included revisions to 35 U.S.C. §103 that became effective on March 16, 2013. Because the '631 Patent issued from an application filed before March 16, 2013, we apply the pre-AIA version of the statute.

² U.S. Patent No. 7,114,652 B2, issued Oct. 3, 2006 (Ex. 1007, “Moulette”).

³ U.S. Patent No. 7,097,108 B2, issued Aug. 29, 2006 (Ex. 1008, “Zellner”).

Reference(s)/Basis	35 U.S.C. § ¹	Claim(s) Challenged
Doughty ⁴	103	1–3, 9, 12, 19, 21–22
Doughty, Zellner	103	4–7, 10, 11
Doughty, Francini ⁵	103	13

Petitioner supports its challenges with the Declaration of Stephen G. Halliday, Ph.D. (Ex. 1002). In support of its contentions, Patent Owner relies on a Declaration of Ivan Zatkovich (Ex. 2042). *See, e.g.*, PO Resp. 2. The parties also submit the depositions of Halliday and Zatkovich. Ex. 1032 (Zatkovich Deposition); Ex. 2039, Ex. 2040 (Halliday Depositions). Patent Owner relies on a deposition of Stuart Lipoff, its expert witness from the related ITC litigation (Ex. 2041). Petitioner supports its evidence with the trial transcript from the ITC action providing Mr. Zatkovich’s testimony before the ITC regarding the patent at issue (Ex. 1030).

III. ANALYSIS

A. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). Factors

⁴ U.S. Patent Application Publication No. 2006/0161789 A1, Published Jul. 20, 2006 (Ex. 1012, “Doughty”).

⁵ U.S. Patent No. 4,701,601, issued Oct. 20, 1987 (Ex. 1006, “Francini”).

pertinent to a determination of the level of ordinary skill in the art include “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696–697 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). “Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case.” *Id.*

Petitioner argues that a person having ordinary skill in the art at the time of the alleged invention “would have had at least a Bachelor’s degree in Electrical Engineering, or an equivalent technical degree or equivalent work experience, and knowledge regarding the use of magnetic fields to transmit or otherwise convey information.” Pet. 13–14 (citing Ex. 1002 ¶ 33). Petitioner further argues that “[a]dditional education might supplement practice experience and vice-versa.” *Id.* at 14.

In the ITC litigation, Patent Owner proposed that a person of ordinary skill in the art (“POSITA”) would have

“at least two years of experience with point of sale systems and financial transactions,” and “at least a Bachelor’s degree in Electrical Engineering, or an equivalent technical degree or equivalent work experience, and knowledge regarding the use of magnetic fields to transmit or otherwise convey information,” while superior education would compensate for a deficiency in experience, and vice-versa.

PO Resp. 15-16 (citing Ex. 2012, 10–11). Patent Owner indicates “the [judge] in the ITC litigation decided that a POSITA had [an] ‘undergraduate

degree in computer science, electrical engineering, or the equivalent (including computer engineering) and at least three years of experience with point of sale systems and the use of magnetic fields to convey information.” PO Resp. 16; *see* Ex. 2012, 6–7 (ITC Claim Construction).

To establish the level of ordinary skill in the art, we look to various factors including “the types of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and education level of active workers in the field.” *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). Problems encountered in the art are identified in the background sections of Doughty, Moullette, and Zellner. *See* Ex. 1012 ¶ 7; Ex. 1008, 1:13–42; Ex. 1007, 2:38–47; *see* Pet. 10–14; Ex. 1002 ¶¶ 59–62.

Considering these factors, for purposes of this decision, we determine that a person of ordinary skill in the art at the time of the invention would have had a bachelor’s degree in computer science, electrical engineering, computer engineering, or equivalent, and three years of experience working with payment device technologies including magnetic stripe cards and emulators, card readers, RFID, and cellular network communications for payment transactions. While this definition is in some respects more specific than the other proposed definitions, we think it is better tailored to cover all of the types of technologies recited in the claims. Specifically, the other proposed definitions do not cover cellular network communications while our definition does. Apart from this, we do not consider our definition to be materially different from what the ITC adopted or parties propose here. And neither party contends that the outcome of this case turns on the

definition of the level of ordinary skill in the art. *See generally* Pet. and PO Resp. Accordingly, we apply this level of ordinary skill in the art in our obviousness analysis.

B. Claim Interpretation

In an *inter partes* review for a petition filed on or after November 13, 2018, a claim “shall be construed 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); *see* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018). In applying this claim construction standard, we are guided by the principle that the words of a claim “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) (*en banc*) (citation omitted). “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). There is a “heavy presumption,” however, that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (citation omitted).

Petitioner states that it does not believe any terms need be construed to resolve the prior art issues presented in this Petition. Pet. 14. Petitioner notes there were claim constructions proposed by the parties in the ITC proceeding. *Id.* at 14–16 (citing Ex. 1016, 7–10). Petitioner further states these terms need not be construed because they are disclosed by the prior art under either party’s proposed construction. *Id.* at 16.

Patent Owner indicates certain terms were construed in the ITC litigation in a claim construction order, and states “[a]ll of the claims of the ’631 patent are patentable under these constructions.” PO Resp. 16–19; Ex. 2012, 27–38.

Neither Petitioner nor Patent Owner offer any claim construction in this proceeding. Consequently, there is no dispute regarding the claim language that we need to resolve, and we proceed by applying the ordinary and customary meaning of the claim terms consistent with their use in the specification and prosecution history.

Our use of the ordinary and customary meaning of the claim terms is consistent with the ITC’s claim construction. The actual claim language of the ’631 Patent and the corresponding ITC constructions from Exhibit 2012 are shown in the table below.

'631 Patent Claim Terms	ITC Construction
“dynamic magnetic stripe communication device” (claim 1)	“a device capable of communicating dynamic magnetic stripe data”
“serially communicate first magnetic stripe track data and second magnetic stripe track data while electrically coupled to the payment terminal” (claim 1)	“serially communicate first magnetic stripe track data and second magnetic stripe track data while electrically coupled to the payment terminal”
“operable to electrically couple to a payment terminal when the dynamic magnetic stripe communication device is located outside and within proximity of the payment terminal and to serially communicate first magnetic stripe track data and second magnetic stripe track data while electrically coupled to the payment terminal”	Plain language.
“within proximity of”	Plain and ordinary meaning
“virtual payment card” (claims 6 and 7)	“a visual representation of a payment card”

Ex. 2012, 27–38; PO Resp. 16–19.

The ITC’s constructions for the limitations above largely mirror the actual claim language. In other words, the ITC uses the plain and ordinary meaning of these claim limitations. *Id.* For the third limitation, the ITC agreed with Patent Owner that the construction for a “virtual payment card” is “a visual representation of a payment card.” *Id.* at 36. In determining this construction, the ITC found that Figure 12 of the ’631 Patent included features common to actual credit cards such as card number, name, and security (CVCC) code, but did not include other features actual credit cards would have, such as a logo, expiration date, issuer, magnetic stripe, and computer chip. *Id.* at 33–34. The ITC held that the payment card of

Figure 12 only resembles an actual credit card, and thus chose Patent Owner's construction that a "virtual payment card" is "a visual representation of a payment card" over Petitioner's construction of "an image of a payment card." *Id.* We agree with the ITC that the ordinary and customary meaning of "virtual payment card," when considered in light of the '631 Patent, specifically, Figure 12 and corresponding description, is "a visual representation of a payment card."

We proceed to analyze the challenges applying the ordinary and customary meaning of the claim terms.

C. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter 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) objective evidence of nonobviousness, i.e., secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

The Supreme Court has made clear that we apply "an expansive and flexible approach" to the question of obviousness. *KSR*, 550 U.S. at 415. Whether a patent claiming the combination of prior art elements would have been obvious is determined by whether the improvement is more than the

predictable use of prior art elements according to their established functions. *KSR*, 550 U.S. at 417. Reaching this conclusion, however, requires more than a mere showing that the prior art includes separate references covering each separate limitation in a claim under examination. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention. *Id.*

“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”)). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review). Furthermore, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

Thus, to prevail in an *inter partes* review, Petitioner must explain by a preponderance of the evidence how the proposed prior art or combinations of prior art would have rendered the challenged claims unpatentable.

*D. Alleged Obviousness of Claims 1–3, 9, 10, 12, 13, 19, and 21:
Moulette*

Petitioner provides argument that Moulette renders claims 1–3, 9, 10, 12, 13, 19, and 21 obvious. Pet. 16–31; Ex. 1002 ¶¶ 64–87.

1. Overview of Moulette (Ex. 1007)

Moulette is a patent titled “External Adaptor for Magnetic Stripe Card Reader.” Ex. 1007, code (54). Moulette discloses an adaptor for use with a conventional magnetic stripe card point of sale reader that receives information from a contact or wireless source. *Id.* at Abstract.

Figure 1, below, illustrates “a simplified schematic view of an adaptor system in accordance with one embodiment” that allows for magnetic emulation outside of the reader. *Id.* at 3:66–4:1.

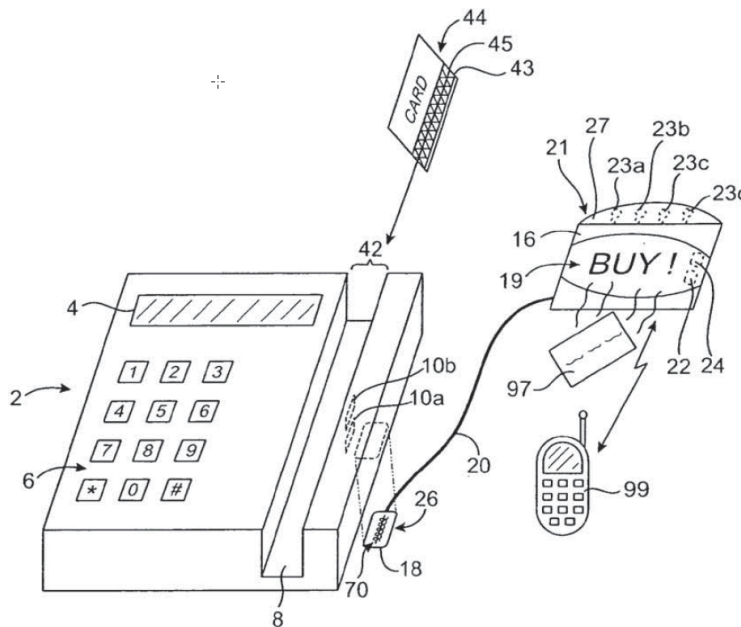


FIG. 1

Moulette describes an adaptor that “allows a conventional magnetic stripe card POS reader to receive information from contact-based or wireless

sources.” *Id.* at 2:51–55. Figure 1 shows conventional point-of-sale (POS) magnetic stripe card reader 2, with display 4, keypad 6, and magnetic card swipe slot 8. *Id.* at 4:1–3. Magneto-inductive readers 10a and 10b receive signals from Track One 43 or Track Two 45 of magnetic stripe card 44. *Id.* at 4:3–7. Figure 1 shows consumer pod portion 16 in electrical communication with merchant pod portion 18 through cable 20, where the consumer interacts bringing an RF proximity chip card 97, mobile personal device, or other RF or IR transceiver device in proximity to a wireless transceiver 22 to communicate information. *Id.* at 4:8–15. Consumer pod portion 16 is positioned at a location convenient for a customer, who may interact with adaptor 14 using personal trusted device (PTD) 99 (shown as a wireless telephone in Figure 1) by bringing PTD 99 in proximity to wireless transceiver 22 of adaptor 14. *Id.* at 4:10–15, 4:46–49. Merchant pod portion 18 is affixed beneath the external housing of reader device 2 and communicates with its reader heads 10a, 10b. *Id.* at 5:21–31.

2. Claim 1

- a. Preamble and “a structure for receiving manual input;” “a dynamic magnetic stripe communication device;” and “a processor for controlling the dynamic magnetic stripe communication device”

Petitioner argues that Moullette teaches an adaptor that allows the consumer pod to communicate with the magnetic stripe card POS reader. Ex. 1007, Abstract, 4:8–10; Ex. 1002 ¶ 64. Petitioner cites Moullette’s adaptor that includes specialized interfaces and a keyboard for data entry. Ex. 1007, 5:3–17; Ex. 1002 ¶ 65. Furthermore, Petitioner argues that Moullette’s device “includes an inductor capable of generating a magnetic field of sufficient power to couple with a head of a magnetic stripe card

reader through the housing of the reader device.” Pet. 18 (quoting Ex. 1007, Abstract). Moullette teaches communicating payment information to the magnetic card reader. Ex. 1007, 7:12–21; 6:49–7:2; Pet. 18–19. Petitioner asserts that Moullette’s adaptor includes “transceivers 22 in communication with respective interface processors 24.” Pet. 20 (quoting Ex. 1007, 4:41–43).

Patent Owner contends Moullette fails to teach every feature of claim 1 of the ’631 Patent, but Patent Owner does not provide specific argument regarding most of the limitations. Nonetheless, the burden remains on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware*, 800 F.3d at 1378.

- b. *“wherein the dynamic magnetic stripe communication device is operable to electrically couple to a payment terminal when the dynamic magnetic stripe communication device is located outside and within proximity of the payment terminal and to serially communicate first magnetic stripe track data and second magnetic stripe track data while electrically coupled to the payment terminal”*

Petitioner argues that Moullette teaches this limitation in describing an adaptor with an inductor capable of generating a magnetic field of sufficient power to couple with a head of a magnetic stripe card reader through the housing of the reader device such that the adaptor can be positioned external to the reader device. Pet. 21 (citing Ex. 1007, Abstract); *see* Ex. 1002 ¶¶ 70–73. Petitioner avers that Moullette depicts the device located outside and proximate to the payment terminal and electrically coupled to the magnetic read heads. Pet. 21–22; Ex. 1007, Figs. 1 and 3B; Ex. 1002 ¶ 70.

Petitioner asserts that Moullette teaches serial communication of first and second magnetic stripe data, showing “[o]nce module 26 has successfully communicated with Track 1 head 10b, the flow of current to through outer coil 76 is halted . . . [and] a current is then flowed through inner coil 74,” which generates a magnetic field that communicates data to the Track 2 head. Pet. 23 (quoting Ex. 1007, 6:49–7:2); *see* Ex. 1002 ¶¶ 72, 73.

Patent Owner argues claim 1 separately. PO Resp. 19–23. With respect to claim 1, Patent Owner argues that “Moullette does not teach ‘the dynamic magnetic stripe communication device . . . operable to electrically couple to a payment terminal when the dynamic magnetic stripe communication device is located outside and within proximity of the payment terminal.’” Patent Owner argues that Moullette does not disclose a standalone device, but instead discloses a system which includes a consumer and merchant pod portion designed for different functions. PO Resp. 19 (citing Ex. 1007, 3:66–67, 4:8–10, Fig. 1). Patent Owner argues that Moullette’s adaptor that Petitioner relies on is “**affixed** to the external housing of the magnetic stripe reader, thereby becoming an integral part of the magnetic stripe reader.” PO Resp. 20. Patent Owner contends that Moullette does not teach a “dynamic magnetic stripe communication device” limitation or teach communication with the merchant read heads while located outside of the terminal. PO Resp. 19–22.

We do not agree with Patent Owner’s contention that Moullette teaches a system and not a device. PO Resp. 19. Patent Owner’s arguments limit the term “device” to exclude a device with multiple components. *Id.* Patent Owner cites no intrinsic or extrinsic evidence to support the

narrowing of the term “device” to exclude multiple connected components such as the pods in Moullette. *See* PO Resp. 19; Sur-Reply 2–5. On the full record, we agree with Petitioner’s evidence and argument that Moullette’s adaptor teaches the device limitation. Pet. 16–17; Reply 4. Moullette refers to the adaptor separate from the merchant terminal, describing its positioning as “near a magnetic stripe card reader” or “proximate” to the reader device’s housing. Ex. 1007, 2:66–3:14; *see id.* at code 57, 3:62–65, 4:41–60, 8:67–9:6. Furthermore, Moullette discusses the adaptor separately and discusses embodiments where the adaptor is a complete single unit. Ex. 1007, 7:47–49; *see* Ex. 1030, 812:25–813:4 (“M-Pod 26, cable 20, [and] C-Pod 16 . . . can be integrated creating a complete and single-piece unit”). Patent Owner’s declarant also admits that Moullette discloses an adaptor. Ex. 1030, 805:3–5. Accordingly, we find that Moullette teaches the device limitation of claim 1.

Patent Owner’s argument that the adaptor is affixed to the external housing of the reader and becomes an integral part and is not located “outside” of the housing is also unavailing. PO Resp. 19–21. Claim 1 states that the dynamic magnetic stripe communication device be “located outside and within proximity of the payment terminal.” Ex. 1001, claim 1. Patent Owner’s declarant agreed that the adaptor is external. Ex. 1030, 806:7–10 (agreeing that adaptor “is positioned outside the conventional magnetic stripe reader”), 806:20–807:3 (the adaptor “can be positioned external to the reader device”). Furthermore, Moullette’s teaching that the adaptor “*may* be affixed to the reader device” (Ex. 1007, 5:29–31 (emphasis added)) is permissive and undermines Patent Owner’s argument that the adaptor is integral to the Moullette. *See* PO Resp. 19–21.

We disagree with Patent Owner’s argument that the Moullette’s adaptor “must be affixed . . . at a precise location with a precise alignment in order to work.” PO Resp. 20–21. Patent Owner’s evidence for this argument lacks support from Moullette’s specification and relies on conclusory statements from Patent Owner’s declarant. *Id.*; Ex. 2042 ¶ 75; Ex. 1007, Fig. 3B. We do not find that the need to align the adaptor with the read heads undermines that Moullette teaches external positioning to allow aligned communication “through the housing” to the head of the magnetic stripe reader but does not otherwise limit the external position relative to the reader. Ex. 1007, 3:62–65; *see also* Ex. 1032, 26:14–25 (testifying that the merchant could hold the M-Pod during a transaction). Accordingly, we do not agree with Patent Owner that the alignment or affixing of the adaptor demonstrates that “Moullette fails to teach the claimed dynamic magnetic stripe communication device ‘operable to electrically couple to a payment terminal when . . . located outside and within proximity of the payment terminal.’” PO Resp. 21.

Patent Owner argues that Moullette fails to teach the processors and has “absolutely nothing in the specification to suggest that Moullette includes a processor that controls the dynamic magnetic stripe communication device, nor is there even the slightest suggestion that any of those specialized processors would, somehow, also be a ‘processor for controlling the dynamic magnetic stripe communication device’ required by claim 1.” PO Resp. 22. We do not agree with Patent Owner’s argument regarding the interface processors disclosed in Moullette. Petitioner presents persuasive evidence that the adaptor in Moullette includes the C-Pod that translates the payment signals from the cell phone and dives the M-Pod

portion via the interface processors. Ex. 2042 ¶ 40 (describing the adaptor); Ex. 1007, 4:8–10, 5:21–25, 5:36–38, 6:49–56; see also Ex. 1030, 739:10–740:11 (Mr. Zatkovich testifying that Moullette C-Pod 16 includes a processor and converts information from user device to magnetic emulation signal). Patent Owner’s argument admits that “a separate processor that is not shown, taught, or suggested anywhere in Moullette would be required to control the dynamic magnetic stripe communication device.” PO Resp. 22 (citing Ex. 2042 ¶ 75). Petitioner’s argument and evidence support that “Moullette depicts an interface processor [] that is in ‘electrical communication with merchant pod portion 18.” Pet. 20 (citing Ex. 1007, 4:41–43, 5:21–25). Indeed, Patent Owner’s declarant, Mr. Zatkovich, agrees that data conversion beyond the inductors is necessary for the Moullette adaptor to function. Ex. 1032, 41:17–42:4 (agreeing there would have to be data conversion).

Petitioner further establishes that Moullette’s inductors require electricity to communicate the information from the user device pod to the inductors. Ex. 1032, 43:15–44:5. Petitioner provides persuasive evidence that Moullette teaches that Moullette’s C-Pod translates payment signals from the cell phone and drives the M-Pod inductors. Pet. 19, 20; Ex. 1002 ¶ 67; Ex. 1007, Fig. 1, 3:63–65 (stating that C-Pod transceivers communicate with interface processors); Ex. 1030, 739:10–740:11 (agreeing that Moullette’s signals are translated from the C-Pod to the M-Pod via a processor); *see also* Ex. 1001, 5:54–57, 7:5–8 (recognizing that a processor can drive inductors). With respect to claim 1, Petitioner provides persuasive evidence that the interface processors allow communication from the cell

phone payment data to the magnetic card reader. Pet. 19, 20; Ex. 1002 ¶ 67; Ex. 1007, Fig. 1, 3:63–65.

Having reviewed the full record, we find that Moullette teaches “a processor for controlling the circuit” used to emit and communicate with the magnetic stripe reader.

3. Dependent Claims 2, 3, 9, 10, 12, 13, 19, and 21

Petitioner provides argument and evidence citing to Moullette and Mr. Halliday’s testimony that Moullette teaches the limitations of dependent claims 2, 3, 9, 10, 12, 13, 19, and 21. Pet. 23–31; Ex. 1002 ¶¶ 74–87. We credit Petitioner’s evidence finding that Petitioner provides detailed citations to the evidence supporting a finding that Moullette teaches the limitations of claims 2, 3, 9, 10, 12, 13, 19, and 21.

Patent Owner challenges claims 2, 3, 9, 10, 12, 19, and 21, which all depend from claim 1, on the same contentions addressed above with respect to claim 1. PO Resp. 23–25. For the reasons discussed above, we find that Moullette teaches the limitations of claims 2, 3, 9, 10, 12, 19, and 21.

With respect to claim 13, which recites “[t]he apparatus of claim 1, wherein the first magnetic stripe track data and the second magnetic stripe track data are the same track,” Patent Owner argues that Moullette fails to expressly teach sending data more than once, it cannot teach the same track data being transmitted more than once. PO Resp. 24–25; Ex. 2042 ¶ 79; Ex. 2039, 183:21–184:1 (Mr. Halliday agreeing that Moullette does not disclose sending data more than once).

Patent Owner’s contentions fail to address Petitioner’s argument that Moullette identifies the need to successfully communicate data (Ex. 1007, 6:60–62), and “a POSITA would have known that it would be preferable to

transmit data multiple times to increase reliability and the likelihood the data is received by the payment terminal.” Pet. 28–29; Ex. 1004 ¶ 85. Petitioner provides persuasive evidence that transmitting the same data multiple times was well known in the art and cites an issued patent to support its contention. Pet. 29; Ex. 1006, 7:45–54; Ex. 1002 ¶ 85. Thus, we are not persuaded that Moullette’s lack of an express teaching for sending the data more than once undermines Petitioner’s evidence that a person of ordinary skill would implement a well-known technique in the art to increase reliability and receipt of the data. *See* Pet. 28–29; Ex. 1006, 7:45–54; Ex. 1002 ¶ 85.

Based on the full record before us and our discussion of Patent Owner’s contentions with respect to claim 1 above, we find that Moullette teaches the limitations of claim 13.

4. Objective Indicia of Nonobviousness

Patent Owner argues that its evidence of objective indicia of nonobviousness shows that the ’631 Patent’s claims would not have been obvious to a person of ordinary skill in the art at the time of the alleged invention. PO Resp. 44–51; Sur-Reply 20–24. Petitioner contends that “[Patent Owner] bears the burden to come forward with any evidence of secondary considerations, yet fails to show a nexus between its claimed invention and any of its purported secondary considerations evidence.” Reply 20.

For objective indicia of nonobviousness to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention. *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 33 at 32 (PTAB January 24, 2020) (precedential,

designated April 14, 2020) (citing *ClassCo, Inc., v. Apple, Inc.*, 838 F.3d 1214, 1220 (Fed. Cir. 2016)). “[T]here is no nexus unless the evidence presented is ‘reasonably commensurate with the scope of the claims.’” *ClassCo*, 838 F.3d at 1220 (quoting *Rambus Inc. v. Rea*, 731 F.3d 1248, 1257 (Fed. Cir. 2013)). The nexus also must be attributable to some aspect of the claim that is not already in the prior art. *In re Kao*, 639 F.3d 1057, 1068–69 (Fed. Cir. 2011). A patentee is entitled to a presumption of nexus “when the patentee shows that the asserted objective evidence is tied to a specific product and that product ‘embodies the claimed features, and is coextensive with them.’” *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019) (quoting *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000))). “Although we do not require the patent [owner] to prove perfect correspondence to meet the coextensiveness requirement, what we do require is that the patent [owner] demonstrate that the product is essentially the claimed invention.” *Fox Factory*, 944 F.3d at 1374.

Patent Owner contends that four products produced by the Patent Owner, Dynamics, and one product produced by Petitioner, Samsung Pay, are all coextensive with the claims of the ’631 Patent. PO Resp. 44. Patent Owner’s evidence of this coextensiveness is insufficient.

With respect to Dynamics’s products, Patent Owner asserts that “Dynamics has sold a significant number of payment cards that employed magnetic stripe emulation of payment cards since it began offering its payment cards for sale in 2011.” PO Resp. 46 (citing Ex. 2042 ¶ 140). However, Patent Owner’s declarant testimony does not support the sale of a

significant number of payment cards. *Id.* Indeed, Patent Owner fails to show any commercial sales to support its conclusory allegation.

Furthermore, Patent Owner has not persuasively shown that cards it sells are coextensive with the '631 Patent (Ex. 2042 ¶¶ 135–142). The claim charts (Ex. 2035–2038; Ex. 2042 ¶ 129) mapping the '631 Patent to the Dynamics products are improper incorporation by reference of a declaration into a brief. *See* PO Resp. 58; 37 C.F.R. § 42.6(a)(3); *see also Eli Lilly and Co. v. Teva Pharms. Int'l GmbH*, No. IPR2018-01424, Paper 80 at 104 (PTAB Feb. 18, 2020) (finding reference to claim charts in declaration to support secondary consideration was improper incorporation).

With respect to the Samsung Pay products, Patent Owner relies on claim charts from related litigation and conclusory testimony to support its contention that the Samsung Pay application infringes the '631 Patent and is coextensive with the independent claims of the '631 Patent. PO Resp. 45–47 (citing Ex. 2044; Ex. 2042 ¶¶ 138–142). Patent Owner admits, however, that the Samsung features are sold in various commercially successful products but has not shown that those products have a nexus to the '631 Patent. PO Resp. 46. In addition to improperly incorporating by reference the Samsung Pay product claim charts (PO Resp. 58–59; 37 C.F.R. § 42.6(a)(3)), Patent Owner fails to provide any analysis or argument showing that Samsung product sales have any connection to the '631 Patent among other product features. *See* PO Resp. 44–45. Patent Owner makes no attempt to indicate what portion of commercial success that Petitioner's devices may have is attributable to features claimed in the '631 Patent relative to those not covered by the patent. Consequently, we have no basis to assess how much commercial success of Petitioner's devices is

attributable to the '631 Patent. The nexus between the '631 Patent and the commercial success must be due to features that are not in the prior art. *See Kao*, 639 F.3d at 1068–69. Patent Owner's evidence of commercial success and a nexus to the '631 Patent is insufficient to carry its burden. *See Fox Factory*, 944 F.3d at 1374.

Patent Owner's evidence of successfully licensing to LG Electronics, Inc. (PO Resp. 46; Sur-Reply 22–23) is also unpersuasive. The only unredacted patent listed in the license agreement is U.S. Patent 8,827,153, which is not the patent at issue here. Ex. 2013, 10. Consequently, the license agreement is ineffective to show commercial success relating to the '631 Patent. Patent Owner's arguments that the other patents listed in the license are related to the '631 is unavailing. Sur-Reply 22. We do not find Patent Owner's conclusory statements regarding the availability of alternative products are insufficient and not persuasive. *Id.* at 22–23.

Patent Owner's remaining evidence of non-obviousness is equally unavailing. Patent Owner fails to establish a nexus between the chart of awards and the claimed invention of the '631 Patent. PO Resp. 48–49. Patent Owner's award chart lacks evidence for what the awards were for, and fails to show a nexus to the '631 Patent's claims sufficient to support industry praise. PO Resp. 48–49 Ex. 2042 ¶ 145. Similarly, Patent Owner's evidence of copying and the failure of others relies on unsupported and conclusory testimony from the Zatkovich declaration that fails to show a nexus between the evidence and the '631 Patent. PO Resp. 47–48, 50; Ex. 2042 ¶ 141, 142, 147.

Having reviewed the full record, we agree with Petitioners' arguments regarding Patent Owner's allegations of objective indicia of nonobviousness.

Reply 20–24. We find that Patent Owner, on the full record, has not persuasively established a nexus showing that industry praise for or commercial success of Dynamics’ or Samsung’s products are attributable to the claimed features of the ’631 Patent. Patent Owner also has not provided sufficient and persuasive evidence of copying, long-felt need, failure of others, or licensing. Accordingly, Patent Owner’s evidence of objective indicia of nonobviousness is insufficient to establish non-obviousness of the claimed invention.

5. Conclusion

Based on the full record, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–3, 9, 10, 12, 13, 19, and 21 obvious would have been obvious to a person of ordinary skill in the art at the time of the invention in view of Moullette. Pet. 16–31; Ex. 1002 ¶¶ 64–87.

E. Alleged Obviousness of Claims 1, 4–7, 10, 11, and 22: Moullette and Zellner

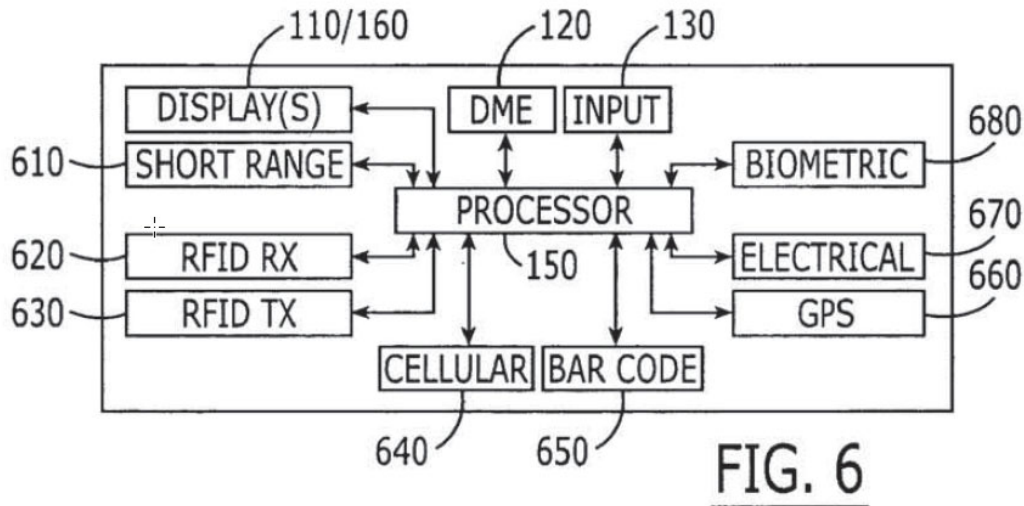
Petitioner asserts that claims 1, 4–7, 10, 11, and 22 would have been rendered obvious by Moullette and Zellner. Pet. 31–45; Ex. 1002 ¶¶ 88–112.

1. Overview of Zellner (Ex. 1008)

Zellner is a U.S. patent titled “Multiple Function Electronic Cards.” Ex. 1008, code (54). Zellner’s electronic card includes first and second opposing faces, and is similar in dimensions to a standard credit card. *Id.*, code (57). A flat panel display extends over the first face of the card, and a dynamic magnetic encoder is provided on the second face of the card. *Id.*

The dynamic magnetic encoder provides magnetic stripe information for a selected credit card. *Id.*

Zellner's Figure 6 is shown below.



Zellner's Figure 6 shows an electronic card including display(s) 110/160, dynamic magnetic encoder (DME) 120, input device 130, and processor 150. *Id.* at 7:42–46. The electronic card further includes short range wireless transceiver 610 for Bluetooth, WiFi or other communications. *Id.* at 7:46–50. The electronic card also includes Radio Frequency ID (RFID) receiver 620, RFID transmitter 630, and cellular transceiver 640. *Id.* at 7:50–53. Zellner further discloses a PDA, cell phone or other portable electronic device, which “may be combined with any or all of the embodiments” described earlier in the reference. *Id.* at 11:6–8.

2. Reason to Combine

Petitioner provides articulated rationale and reasoning to incorporate Moullette into Zellner's device so personal communication devices, such as cell phones, can communicate with payment terminals via a device that emulates magnetic fields generated by traditional magnetic stripe payment

cards. Pet. 31–34; Ex. 1002 ¶¶ 88–82; Ex. 1007, 2:42–47, 2:51–65; Ex. 1008, 1:6–9, 5:34–39. Petitioner cites Zellner’s portable electronic device with processor, display, RF, RFID, and cellular systems, and dynamic magnetic encoder capable of displaying credit card images and emulating a credit card’s magnetic stripe information to existing card readers via magnetic or radio interface. Pet. 31–32; Ex. 1008, Abstract, 5:34–39, 9:51, 11:50–55. Moullette similarly teaches inductors that generate a first and second magnetic field capable of coupling with a magnetic stripe reader from the outside of a reader device. Pet. 32; Ex. 1007, Abstract, 3:15–25. Petitioner argues that it would have been obvious to an ordinarily skilled artisan “to modify Zellner’s dynamic magnetic encoder (to the extent necessary) to include Moullette’s inductors to ensure that Zellner’s device could communicate with payment terminals using both radio frequency interaction, such as RFID, and magnetic stripe emulation using magnetic fields.” Pet. 33 (citing Ex. 1002 ¶ 91).

Patent Owner argues that the combination of Zellner and Moullette would “eviscerate Moullette’s invention” and that “there would be no motivation to dismantle Moullette for incorporation into Zellner.” PO Resp. 26; Sur-Reply 17. Petitioner asserts that Zellner would use Moullette’s coils and inductors to realize Zellner’s encoder. Pet. 31; Ex. 1003 ¶¶ 88–92. Thus, Patent Owner’s contentions that Moullette’s invention would be eviscerated misstates Petitioner’s proposed modifications.

Patent Owner’s contention that Zellner’s alone dynamic magnetic encoder (DME) would be insufficient to communicate with the read head of a magnetic card reader misstates Zellner’s teachings and Petitioner’s ground.

Zellner expressly states discloses that its device “can also emulate the magnetic stripe information that would be provided by the credit card,” and shares data via a magnetic interface that is “compatible with existing card readers” using “[t]he dynamic magnetic encoder.” Ex. 1008, 1:60–2:2, 3:22–26, 11:50–55; Pet. 31–34. Zellner’s encoders provide magnetic stripe information. Ex. 1008, Figs. 2–3, 7:32–39. Finally, Mr. Zatkovich also admitted that “an encoder communicates with the read head” and that coils can be used as encoders. Ex. 1032, 71:4–7, 72:25–73:13.

Based on the full record, we determine that Petitioner presents persuasive and sufficient evidence and rationales demonstrating why a person of ordinary skill in the art would have had reason to combine Zellner and Moullette with a reasonable expectation of success.

3. Claim 1

- a. *Preamble and “a structure for receiving manual input;” “a dynamic magnetic stripe communication device;” and “a processor for controlling the dynamic magnetic stripe communication device”*

Petitioner argues that to the extent the preamble is limiting, Zellner teaches a portable electronic device, such as a cell phone. Pet. 34; Ex. 1008, 10:63–11:13, Fig. 12. Furthermore, Zellner teaches a device that “may provide one or more user input devices, such as one or more soft keys that are incorporated into the flat panel display, a keypad, a full keyboard, a voice recognition system, a biometric recognition system, and/or other user input device.” Pet. 35 (quoting Ex. 1008, 2:44–49); Ex. 1009, Fig. 12.

Petitioner argues that Zellner in view of Moullette discloses the dynamic magnetic encoder that teaches the recited dynamic magnetic stripe

communication device. Pet. 35. In addition, Petitioner adds that Moullette teaches this limitation as discussed above. *Id.* Finally, Petitioner adds that

Zellner discloses that “a processor 150 [] is provided,” and that the processor may be “a microprocessor, custom processor, controller, [etc.]” Ex. 1008, 5:54–59. Zellner teaches that “the processor 150 is configured . . . to control the dynamic magnetic encoder 120 to provide magnetic stripe information . . . in response to user selection of the predetermined credit card via the user input device 130.” *Id.*, 5:59–6:1.

Pet. 36 (emphasis omitted).

b. *“wherein the dynamic magnetic stripe communication device is operable to electrically couple to a payment terminal when the dynamic magnetic stripe communication device is located outside and within proximity of the payment terminal and to serially communicate first magnetic stripe track data and second magnetic stripe track data while electrically coupled to the payment terminal”*

Petitioner argues that Zellner in view of Moullette teaches this limitation. Pet. 37. Petitioner argues that incorporating Moullette into Zellner’s portable device would have been understood by an ordinarily skilled artisan to create a magnetic field to serially communicate magnetic stripe data when coupled to a payment terminal. *Id.* at 37; Ex. 1002 ¶ 98.

c. *Patent Owner Contentions*

Patent Owner does not challenge Petitioner’s contentions regarding the claim limitations for claims 1. *See* PO Resp. 25–28. Nonetheless, the burden remains on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware*, 800 F.3d at 1378. Patent Owner’s arguments are directed to Petitioner’s proffered reasons to combine Zellner and Moullette, which are addressed above. PO Resp. 25–28.

d. Conclusion

We agree with Petitioner’s argument and evidence that Zellner and Moullette teach the limitations of claims 1, 4–7, 12–18, and 20. Based on the full record, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 4–7, 12–18, and 20 would have been obvious to a person of ordinary skill over Zellner and Moullette.

4. Claims 4–7, 10, 11, 22

Petitioner provides argument and evidence citing to Zellner, Moullette, and Mr. Halliday that the asserted references teach the limitations of dependent claims 4–7, 10, 11, and 22. Pet. 37–45; Ex. 1002 ¶¶ 99–112. Petitioner provides citations to the record mapping the limitations of claims 4–7, 10, 11, and 22 to Zellner and Moullette. *Id.* We find that Petitioner’s evidence and argument persuasive, that Zellner and Moullette teach the portable device limitations of claims 4 and 5, the display limitations of claims 6 and 7, and the RFID receiver limitations of claims 10 and 11. Pet. 37–43; Ex. 1002 ¶¶ 99–110.

For claims 4–7, 10, and 11, Patent Owner relies on the same arguments presented above for claim 1. PO Resp. 28–31. For the reasons above, we do not agree with Patent Owner’s argument. Rather, we find that Zellner and Moullette teach the limitations of claims 4–7, 10, and 11. *See* Pet. 37–45.

With respect to claim 22, which recites that “temporal pauses occur between the serial communications of the first magnetic stripe track data and the second magnetic stripe track data,” Patent Owner argues that Zellner does not provide sufficient information as to how the dynamic magnetic encoder works or what circuit is provided for the encoder to emulate a

magnetic stripe. PO Resp. 29–31. Because neither Zellner nor Moullette expressly discusses a temporal pause or describe the transmission of the signal to the coils, Patent Owner argues they fail to teach the limitations of claim 22. *Id.*

As discussed above, we find that Zellner teaches a device that can “emulate the magnetic stripe information that would be provided by the credit card,” and explains that emulation was “well known to those having skill in the art.” Ex. 1008, 1:60–64, 5:34–39. Although Patent Owner cites Mr. Halliday’s testimony that Zellner fails to teach the dynamic encoder details or how the encoder works to support its contention that Zellner does not teach the temporal pauses of claim 22, Petitioner does not rely on Zellner’s express teaching for this limitation. PO Resp. 29–30 (citing Ex. 2039, 107:1-6, 125:7-16, 188:6-8, 193:18-193-1; Ex. 2042 ¶ 96; Reply 13. Indeed, Petitioner does not rely on either Zellner or Moullette to expressly teach the limitation. Reply 13. Instead, Petitioner argues that “sending magnetic track data in bursts with temporal pauses between each data burst was well known in the art.” Pet. 43–45; Ex. 1002 ¶ 112. Furthermore Petitioner’s citation to a U.S. Patent No. 4,701,601 (issued in 1987) supports its contention that sending data with temporal pauses was known in the art. Pet. 44–45; Ex. 1006, 7:48-52 (disclosing sending “a data stream in bursts lasting 30 to 100 milliseconds” and repeating those bursts “every second,” resulting in a temporal pause between each burst of data communicate). Accordingly, we find Petitioner’s argument and evidence persuasive that a person of ordinary skill in the art, would have understood the uncertainty of placing a cell phone in range of the magnetic card reader when it starts communicating the first magnetic stripe data and that when the

magnetic stripe card reader stops receiving information, it returns to its initial state and would have been motivated to include a temporal pause between the communication of first and second magnetic stripe data to allow the magnetic card reader to return to its initial state and be ready to receive the second magnetic stripe data, for a successful communication. Pet. 44; Ex. 1002 ¶¶ 111–112; Reply 13.

We also do not agree with Patent Owner’s argument that Moullette teaches the opposite of a temporal pause. PO Resp. 30–31. Patent Owner again fails to address Petitioner’s argument that Zellner’s communication of the first and second stripe data is the motivation Petitioner cites for including the temporal pauses. Rather, we agree with Petitioner (Reply 13) that Moullette’s teaching regarding serial transmission without interruption (Ex. 1008, 6:60–66) is does not criticize, discredit, or discourage investigation into the modification Petitioner proposes. *Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017) (“A reference that ‘merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into’ the claimed invention does not teach away.”). We find Petitioner’s evidence and supporting reference to temporal pauses to be persuasive (Pet. 43–45; Ex. 1003 ¶¶ 111–112).

Having reviewed the full record, we find that Zellner and Moullette teach the limitations of claim 22.

5. Conclusion

Based on the full record, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 4–7, 10, 11,

and 22 obvious would have been obvious to an ordinarily skill artisan in view of Zellner and Moullette.

F. Alleged Obviousness of Claims 4–7, 10, and 11: Doughty and Zellner; and Obviousness of Claims 13: Doughty and Francini

Petitioner provides argument and evidence that the Doughty renders claims 1–3, 9, 12, 19, 21, and 22 obvious (Pet. 45–56; Ex. 1002 ¶¶ 113–132); that Doughty and Zellner render claims 4–7, 10, and 11 obvious (Pet. 56–66; Ex. 1002 ¶¶ 133–154); and that Doughty and Francini would have rendered claim 13 obvious (Pet. 66–68; Ex. 1002 ¶¶ 155–158).

We do not reach Petitioner’s grounds for unpatentability based on Doughty as we have determined above that claims 1–7, 9–13, 19, 21, and 22 of the ’631 are unpatentable over (1) Moullette (claims 1–3, 9, 10, 12, 13, 19, and 21); and (2) Zellner and Moullette (claims 1, 4–7, 10, 11, and 22);. *See* Part II.D and II.E; *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018) (holding a petitioner “is entitled to a final written decision addressing all of the claims it has challenged”); *Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App’x 984, 990 (Fed. Cir. Apr. 30, 2020) (non-precedential) (recognizing that the “Board need not address issues that are not necessary to the resolution of the proceeding” and, thus, agreeing that the Board has “discretion to decline to decide additional instituted grounds once the petitioner has prevailed on all its challenged claims”). Accordingly, further review of Petitioner’s grounds based on Doughty would not change our final decision in this case.

G. Constitutional Arguments

Patent Owner contends that Administrative Patent Judges are unconstitutionally appointed principal officers, and that this proceeding should be dismissed or stayed for this reason. PO Resp. 52–55; Sur-Reply 26. We do not reach Patent Owner’s Constitutional challenge because the Supreme Court resolved this issue in *United States v. Arthrex, Inc.*, 141 S. Ct. 1970, 1986–87, 1997 (2021).

IV. CONCLUSION⁶

For the reasons given, based on the arguments and evidence of record, Petitioner has met its burden to prove by a preponderance of the evidence that (1) claims 1–3, 9, 10, 12, 13, 19, and 21 are unpatentable under 35 U.S.C. § 103(a) as obvious over Moullette; and (2) claims 1, 4–7, 10, 11, and 22 are unpatentable under 35 U.S.C. § 103(a) as obvious over Zellner and Moullette. We reached no conclusion on the grounds based on Doughty.

⁶ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this Decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

The table below summarizes our conclusions:

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–3, 9, 10, 12, 13, 19, 21	103(a)	Moullette	1–3, 9, 10, 12, 13, 19, 21	
1, 4–7, 10, 11, 22	103(a)	Zellner, Moullette	1, 4–7, 10, 11, 22	
19	103(a)	Zellner, Moullette, Poidomani	19	
1–3, 9, 12, 19, 21, 22	103(a)	Doughty ⁷		
4–7, 10, 11	103(a)	Doughty, Zellner		
13	103(a)	Doughty, Francini		
Overall Outcome			1–7, 9–13, 19, 21, 22	

V. ORDER

Accordingly, it is

ORDERED that claims 1–7, 9–13, 19, 21, and 22 of U.S. Patent No. 10,223,631 B2 are determined to be unpatentable; and

FURTHER ORDERED that, because this is a final written decision, parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

⁷ We do not reach the Doughty challenges for the reasons previously explained.

IPR2020-00504
Patent 10,223,631 B2

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