

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**SAMSUNG ELECTRONICS CO., LTD., SAMSUNG  
ELECTRONICS AMERICA, INC., SAMSUNG  
RESEARCH AMERICA, INC.,**  
*Appellants*

v.

**DYNAMICS INC.,**  
*Appellee*

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2021-2352

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Appeal from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in No. IPR2020-  
00499.

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Decided: August 2, 2022

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JOHN C. O'QUINN, Kirkland & Ellis LLP, Washington,  
DC, argued for appellants. Also represented by  
CHRISTOPHER MIZZO; GREG AROVAS, JAMES E. MARINA, New  
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represented by BRIDGET MONTGOMERY, Harrisburg, PA.

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Before MOORE, *Chief Judge*, TARANTO and STARK, *Circuit Judges*.

MOORE, *Chief Judge*.

Samsung Electronics Company, Ltd., Samsung Electronics America, Inc., and Samsung Research America, Inc. (collectively, Samsung) appeal a Patent Trial and Appeal Board final written decision determining that Samsung failed to show claims 1 or 5–8 of U.S. Patent No. 8,127,153 would have been obvious under 35 U.S.C. § 103. We affirm.

#### BACKGROUND

The '153 patent is owned by Dynamics Inc. and is directed to “magnetic stripe emulators” for “generat[ing] electromagnetic fields that directly communicate data to a read-head of a magnetic stripe reader,” such as a reader of conventional magnetic stripe cards (e.g., a credit card). '153 patent at 1:28–30. To generate these fields, the emulator may comprise a waveform generator for fluctuating the amount of current traveling through an inductor “such that one or more tracks of magnetic stripe data encoded with [an] analog waveform may be communicated to a read-head of a magnetic stripe reader.” *Id.* at 2:20–22. Digital representations of the analog waveform encoding the tracks of data may be stored within the memory of an emulator card and retrieved at the user’s direction. *Id.* at 2:23–65.

Claim 1 of the '153 patent, the only independent claim on appeal, recites:

1. A device comprising:

a magnetic stripe emulator operable to communicate an analog waveform encoded with at least one track of magnetic stripe data to a magnetic stripe reader; and

a waveform generator operable to generate said analog waveform from a digital representation of said at least one track of magnetic stripe data;

*wherein said device is operable to retrieve said digital representation from a plurality of digital representations of said at least one track of magnetic stripe data.*

'153 patent at claim 1 (emphasis added).

Samsung petitioned for *inter partes* review of claims 1 and 5–8 of the '153 patent on two grounds. *See Samsung Elecs. Co. v. Dynamics Inc.*, No. IPR2020-00499, 2021 WL 3519336, at \*1 (P.T.A.B. Aug. 10, 2021) (*FWD*). In one, it argued the claims would have been obvious over U.S. Patent No. 4,868,376 (Lessin) and U.S. Patent No. 7,690,580 (Shoemaker). *Id.* In the other, it argued the claims would have been obvious over U.S. Patent No. 6,206,293 (Gutman) in view of Shoemaker. *Id.* at \*3. Dynamics disputed whether the prior art taught claim 1's wherein limitation and whether a skilled artisan would have been motivated to combine the prior art in the manner claimed. *See id.* at \*9–14, \*17–19.

With respect to the Lessin and Shoemaker ground, the Board found a motivation to look to Shoemaker to improve Lessin, but that the combination Samsung asserted does not satisfy the wherein limitation. *Id.* at \*17–19. With respect to Gutman and Shoemaker, the Board found both that the references do not teach the wherein limitation and that Samsung failed to establish a motivation to combine. *Id.* at \*9–14.

Samsung appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

## DISCUSSION

We review the Board’s legal determination of obviousness de novo and any underlying findings of fact for substantial evidence. *Outdry Techs. Corp. v. Geox S.p.A.*, 859 F.3d 1364, 1367 (Fed. Cir. 2017). What prior art references disclose and whether a skilled artisan would have been motivated to combine the references are questions of fact. *In re Kahn*, 441 F.3d 977, 985 (Fed. Cir. 2006).

## I

Samsung first argues that the Board failed to comply with the Administrative Procedure Act (APA) in its analysis of Lessin and Shoemaker because it allegedly did not address one of Samsung’s arguments regarding the teachings of Shoemaker. We do not agree.

Before the Board, Samsung argued that the combination of Lessin and Shoemaker disclosed claim 1’s wherein limitation. Specifically, it relied on Lessin’s interactive personal data system as disclosing a device operable to retrieve information from memory and Shoemaker as disclosing a plurality of digital representations of one or more tracks of magnetic stripe data. J.A. 125–28. Samsung alleged that Shoemaker disclosed the plurality of representations in two ways: (1) by teaching multiple profiles, e.g., personal and business profiles, associated with the same credit card information (profile representations), and (2) by teaching the communication of forward- and reverse-oriented track data depending on the direction its card is swiped (directional representations). J.A. 116–17, 135. On appeal, Samsung asserts that the Board “did not address” Samsung’s argument that Shoemaker’s directional representations disclose the claimed plurality of digital representations, “much less find that the representations do not.” Appellant’s Br. 29.

Contrary to Samsung’s assertions, the Board did not disregard Samsung’s directional representations-based

argument. Not only did the Board acknowledge the argument, *FWD*, at \*17, it expressly found that “[d]espite [Samsung’s] . . . argument that Shoemaker discloses a card emulating the same track data *regardless of directionality*, we find the record does not support [its] contention.” *Id.* at \*18 (emphasis added). Samsung’s assertion that the Board did not address whether Shoemaker’s directional representations disclose the claimed plurality of digital representations is simply incorrect.

During oral argument, Samsung pivoted and argued that the Board’s decision was deficient not because it failed to address Shoemaker’s directional representations, but because its analysis of those representations was inadequate. *See* Oral Arg. at 6:28–7:18<sup>1</sup>. Samsung failed to adequately raise this argument in its opening brief and therefore forfeited it. *SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1319 (Fed. Cir. 2006) (“Our law is well established that arguments not raised in the opening brief are waived.” (citation omitted)). While Samsung’s opening brief alludes in passing to an alleged lack of clarity in the Board’s analysis, those statements cannot fairly be read in context to have raised any argument in the alternative. *See* Appellant’s Br 30–31. Rather, Samsung’s criticism of the Board’s analysis—namely, that it “conflated” Samsung’s directional- and profile-based representation arguments—was made in support of its contention that the Board failed to address Shoemaker’s directional representations. *Id.*

Regardless, we do not think the Board’s analysis is so lacking that we cannot “reasonably discern that it followed a proper path, even if that path is less than perfectly clear.” *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1365 (Fed. Cir. 2015). The Board acknowledged and

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<sup>1</sup> Available at [https://oralarguments.cafc.uscourts.gov/default.aspx?fl=21-2352\\_06062022.mp3](https://oralarguments.cafc.uscourts.gov/default.aspx?fl=21-2352_06062022.mp3)

accurately articulated Samsung's contention that Shoemaker discloses a plurality of digital representations of at least one track of magnetic stripe data through its directional representations. *FWD*, at \*17. It then expressly rejected that argument, finding, based on substantial evidence (including a concession by Samsung's counsel), that Shoemaker does not teach having dual representations of the same track data available for retrieval, as claimed, but creates a particular representation on the fly when a card is swiped, depending on the direction of the swipe. *Id.* at \*18. The Board explained that Shoemaker does not "read on the challenged claim limitation because Shoemaker discloses that *when* its card determines swipe direction it *then* represents or encodes the data on the dynamically reconfigurable data interface so that the data stream is always provided in the experienced order irrespective of the swipe direction." *Id.* (internal quotations omitted; emphases added). With a premise of Samsung's asserted combination of Lessin and Shoemaker rejected, the Board held that Samsung did not demonstrate that a skilled artisan would have made a combination of the two references that had a memory containing dual representations of the same track data for retrieval as required by the claim. The Board's analysis charts a discernable path.

Samsung would have us throw out the Board's decision because its analysis allegedly conflates Samsung's directional- and profile-based representation arguments. While the Board's explanation may not be a model of clarity, "we do not require perfect explanations." *In re Nuvasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016). The Board introduced its analysis by reference to Shoemaker's profiles, but the substance of that analysis unambiguously deals with directional representations. Moreover, this analysis is essentially identical to the explanation the Board gave when rejecting Shoemaker's directional representations in the context of the Gutman and Shoemaker combination, alleviating any uncertainty as to which argument the Board

intended to address. *Compare FWD*, at \*12, *with id.* at \*18. Under these circumstances, we cannot conclude that the Board’s decision is so deficient as to violate the APA. *See In re Huston*, 308 F.3d 1267, 1280–81 (Fed. Cir. 2002) (holding Board’s reasoning sufficient where its conclusions were “cryptic,” but its path could nonetheless be reasonably discerned). We therefore affirm the Board’s decision with respect to Lessin and Shoemaker.

## II

Samsung next challenges the Board’s decision concerning Gutman in view of Shoemaker. Because substantial evidence supports the Board’s finding that a skilled artisan would not have been motivated to combine those references, we affirm.

Before the Board, Samsung argued that the combination of Gutman and Shoemaker teach claim 1’s wherein limitation.<sup>2</sup> As above, it relied on Gutman as disclosing a device operable to retrieve data from memory and Shoemaker as disclosing a plurality of digital representations, including through its directional representations. And it contended that a skilled artisan would have been motivated to modify Gutman to incorporate the directional representations of Shoemaker into Gutman’s memory. J.A. 103–06. Samsung explained that implementing Shoemaker’s directional representations in Gutman’s memory would “improve the compatibility of Gutman’s card with the then-existing magnetic stripe card infrastructure by, for example, allowing it emulate multiple representations of the same data traditionally found on a conventional magnetic stripe card.” J.A. 103–04. The Board rejected this argument, reasoning that Samsung failed to “explain

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<sup>2</sup> Samsung does not challenge the Board’s determination that Gutman alone does not disclose the wherein limitation.

why altering either of Gutman or Shoemaker would improve the functionality over what is expressly disclosed in each reference” or how the proposed combination “would be more commercially convenient for card users over what is disclosed originally in each reference.” *FWD*, at \*13.

Substantial evidence supports the Board’s finding. Gutman discloses a magnetically communicative card designed to emulate conventional magnetic stripe cards using electronically varying magnetic fields. J.A. 1726 at Abstract. Gutman further discloses that “movement of the card . . . is not required,” that “no ‘swiping’ movement is necessary,” and that “communication of data by the card . . . is independent of movement of the card or placement of the card within the magnetic card reader.” J.A. 1742–43 at 16:60–63, 17:4–13. Dynamics’ expert likewise testified that swiping, and thus swipe direction, was irrelevant to the functioning of Gutman’s card. J.A. 3339–41 (¶¶ 66–71). He further testified that a skilled artisan would not have been motivated to incorporate Shoemaker’s directional representations into Gutman because doing so would introduce a dependency on swipe direction that did not previously exist. J.A. 3342 (¶ 72). This is substantial evidence that incorporation of Shoemaker’s representations based on swipe direction would not improve the functionality of Gutman’s card, negating Samsung’s proposed motivation to combine the references. *FWD*, at \*13–14.

Samsung argues the evidence requires the opposite result. *See* Appellants Br. 52–53. It points to Gutman’s disclosure that, although not required, its card “may still be ‘swiped’ through a magnetic card reader.” J.A. 1742 at 16:64–67. And it cites its own expert’s testimony that Shoemaker would provide additional functionality to Gutman’s card by allowing it to operate with card readers regardless of the orientation it is swiped, a function it contends Gutman alone lacks. J.A. 720–23 (¶¶ 72–74). Samsung’s objection is merely a disagreement with the Board’s weighing of the evidence and the conclusions it



drew therefrom. But “the possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency’s finding from being supported by substantial evidence.” *Consolo v. Fed. Mar. Comm’n*, 383 U.S. 607, 620 (1966). Samsung does not overcome the substantial evidence supporting the Board’s finding, so we must uphold it.

Samsung also argues the Board committed various legal errors in assessing motivation to combine. In particular, it contends that (1) the Board erred by requiring Gutman or Shoemaker to provide an express motivation to combine, and (2) the Board erred by reversing Samsung’s proposed obviousness combination, treating Shoemaker as the primary reference to be modified in view of Gutman. Appellant’s Br. 41–48.<sup>3</sup> We do not agree.

The Board did not require the prior art references themselves to explicitly provide a motivation to combine. Instead, it considered the motivations that Samsung proposed, including to “improve the functionality of Gutman’s card to make it more commercially convenient” by utilizing directional representations, and simply found them unpersuasive. *See FWD*, at \*12. The Board reasoned that Samsung failed to establish that modifying Gutman to include forward- and reverse-swipe representations would in fact lead to improved functionality or commercial convenience given that Gutman’s card does not need to be swiped at all. *Id.* at \*13 (“Nor does the Petitioner or the declarant explain [] how the combination of teachings would be more

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<sup>3</sup> Samsung raises additional arguments concerning the Board’s treatment of Gutman and Shoemaker individually. We need not reach these arguments because we conclude the Board did not err in assessing whether a skilled artisan would have combined Gutman and Shoemaker in the manner proposed, and that substantial evidence supports the Board’s factual finding.

commercially convenient for card users over what is disclosed originally in each reference.”). We detect no legal error in this analysis.

Samsung relies on the Board’s statement that “Petitioner admits [] that Gutman does not recognize the problem of presenting a track in a swipe-appropriate manner in order to be compatible with most card readers.” *Id.* at \*11. That single sentence, found not in the section devoted to the Board’s motivation-to-combine analysis, but in the section mapping the references’ teachings to the claim language, does not demonstrate error. In its motivation-to-combine analysis, the Board did not require Gutman to expressly recognize any problem. It considered—and rejected—the motivation that Samsung proposed. Accordingly, we conclude the Board did not err in this aspect of its analysis.

Samsung’s argument that the Board erred by inverting its obviousness combination is similarly unpersuasive. Appellant’s Br. 46. Samsung again grounds its objection in a single sentence of the Board’s analysis: “Petitioner fails to identify why someone reading Shoemaker would cho[ose] to apply its teachings to Gutman in order to solve a problem already addressed in Shoemaker itself.” *FWD*, at \*13. In doing so, Samsung ignores the remainder of the Board’s decision, which unequivocally shows that it considered and rejected Samsung’s argument for modifying Gutman in view of Shoemaker. The Board went on to explain that Samsung failed to “explain why altering *either* of Gutman or Shoemaker would improve the functionality over what is disclosed in each reference.” *Id.* (emphasis added). And the Board found that Samsung’s proposed modification of Gutman amounted to the combination of “disparate parts of the prior art” without a sufficient explanation as to why a skilled artisan “would have chosen the specific features relied upon by [Samsung] to read on the claim.” *Id.* That reasoning was not legal error.

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Having found that substantial evidence supports the Board's findings and that there was no legal error in the Board's motivation to combine analysis, we affirm the Board's holding that Samsung failed to establish that claims 1 or 5–8 would have been obvious over Gutman in view of Shoemaker.

#### CONCLUSION

Because we conclude that the Board complied with the APA in assessing the Lessin and Shoemaker combination, that substantial evidence supports its finding that Samsung failed to establish a motivation to combine Gutman and Shoemaker, and that it applied the correct legal framework in assessing the motivation to combine those references, we affirm.

#### **AFFIRMED**

#### COSTS

Costs to Dynamics.