NOTE: This disposition is nonprecedential.

# United States Court of Appeals for the Federal Circuit

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**APPLE INC.,**
*Appellant*

**v.**

**SMART MOBILE TECHNOLOGIES LLC,**
*Appellee*

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2024-1623

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Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2022-01004.

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Decided: February 27, 2026

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DEBRA JANECE MCCOMAS, Haynes and Boone, LLP, Dallas, TX, argued for appellant. Also represented by ANDREW S. EHMKE; ANGELA M. OLIVER, Washington, DC; LAURA VU, San Francisco, CA; CLINT S. WILKINS, Plano, TX.

PHILIP GRAVES, Graves & Shaw LLP, Los Angeles, CA, argued for appellee. Also represented by GREER N. SHAW.

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Before DYK, TARANTO, and CUNNINGHAM, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* TARANTO.

Opinion concurring-in-part and dissenting-in-part filed by *Circuit Judge* DYK.

TARANTO, *Circuit Judge*.

Smart Mobile Technologies LLC owns U.S. Patent No. 9,614,943, whose claims 1–9 and 12–20 are the subject of an inter partes review (IPR) instituted by the Patent and Trademark Office (PTO) on a petition filed by Apple Inc. that asserted obviousness on nine overlapping grounds. The PTO's Patent Trial and Appeal Board held claims 1, 5–9, and 12–14 unpatentable for obviousness but upheld claims 2–4 and 15–20. *Samsung Electronics Co., Ltd. v. Smart Mobile Technologies LLC*, No. IPR2022-01004, 2023 WL 8412856, at *1 (P.T.A.B. Dec. 4, 2023) (*Decision*). The Board rested its upholding of the identified claims on findings that Apple had not shown, for two pairs of prior-art references, adequate rationales for combining the references. *Id.* at *21–24, *31–39. Apple appeals as to claims 2–4 and 15–20. We affirm.

## I

### A

The '943 patent, titled "System to Interface Internet Protocol (IP) Based Wireless Devices With Subtasks and Channels" and having a priority chain back to 1996, relates to "provid[ing]" "multiple Internet Protocol (IP) based wireless data transmissions . . . between a wireless device and a server." '943 patent (Abstract). The patent describes a need in the prior art for wireless devices to have multiple transmitters and receivers in order to, among other things, improve signal fidelity and bandwidth. *Id.*, col. 1, lines 48–51; *see id.*, col. 3, line 26, through col. 4, line 38. It thus proposes to add "multiple antennas" to wireless devices, in particular cellular telephones, *id.*, col. 1, lines 48–51, but also to network components that typically are stationary, *see id.*, col. 4, lines 7–11; col. 5, lines 9–48. It calls those

network components "network switch box[es]," the pertinent difference from a cellular telephone being that a network switch box "operates at a network system level capable of coordinating the operations of a number of mobile and other devices in one or more networks" while a cellular telephone "performs at a personal level." *Id.*, col. 5, lines 43–48.

In one embodiment, the patented devices may participate in a virtual private network (VPN). *See id.*, col. 8, lines 17–41; *see also id.*, fig. 12. The specification describes an exemplary VPN that "can be under the control of a single . . . [s]erver" and in which "[e]ach device in [the] VPN . . . may operate wireless or wired devices such as the devices in [the] VPN[.]" *Id.*, col. 8, lines 30–36. The specification repeatedly describes a VPN as enabling "supervision and control" of the corresponding devices by a computer server outside the VPN, *id.*, col. 8, line 40; *see also*, *e.g.*, *id.*, col. 8, lines 33, 38, 51, 63, so that, for example, a cellular telephone in a VPN may "communicat[e] from/to the network switch box or from/to an outside source, such as a [cellular] service provider," *id.*, col. 8, lines 55–57.

The '943 patent's claim 3, which depends on claim 1, includes a limitation related to the VPN embodiment that is particularly relevant in this appeal. Independent claim 1 claims "[a] wireless communication device" having a plurality of antennas capable of wireless communication and parallel processing of multiple data streams. *Id.*, col. 11, line 63, through col. 12, line 9. Claim 3 states:

> 3. The device of claim 1, further in communication with a network switch box configured with a plurality of ports and configured to connect to a plurality of networks to forward packets between different networks and **join a virtual network.**

*Id.*, col. 12, lines 16–20 (emphasis added). Claim 4 depends on claim 3 but adds nothing that is significant for present purposes. *See id.*, col. 12, lines 21–25. The language of the

other claims on appeal (claims 2 and 15–20) is not relevant to Apple's arguments.

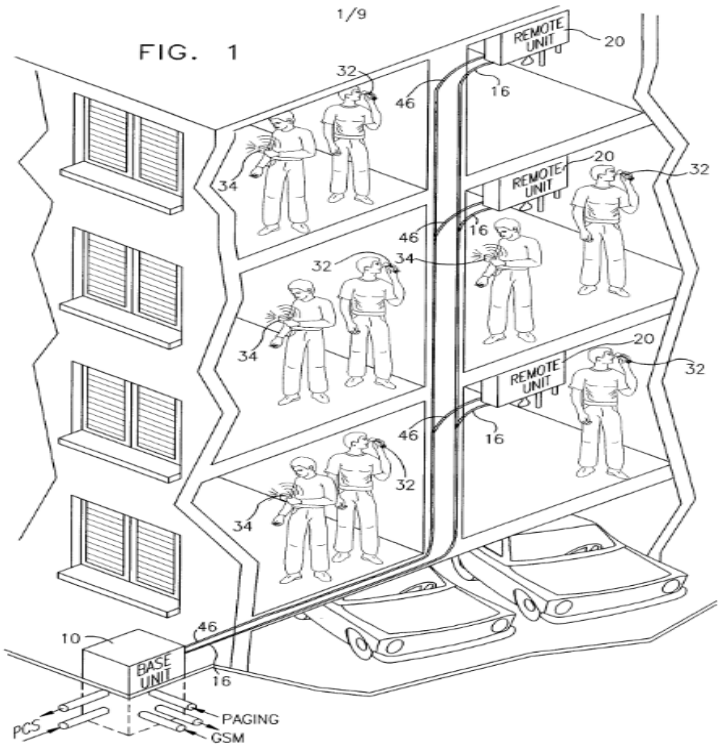
B

Apple—along with others no longer party to the case, *see Decision*, at *1; ECF Nos. 22, 24—filed a petition for an IPR of the '943 patent in May 2022. J.A. 227. Apple asserted nine grounds of obviousness involving a total of six references against, collectively, claims 1–9 and 12–20. J.A. 138–39. Apple alleged that claims 3 and 4 would have been obvious over the combination of references "Byrne" (which is European Patent Application No. 0660626 A2) and "WO748" (which is International Publication No. WO 98/27748). J.A. 162–68. Apple further alleged that claims 1–9 and 12–20 were unpatentable for obviousness over at least one of five prior-art combinations involving "Raleigh" (which is U.S. Patent No. 6,144,711) and Byrne. J.A. 178–224. Finally, Apple asserted three other grounds of obviousness involving Byrne but not WO748 or Raleigh against claims 1, 5–9, and 12–14. J.A. 138.

Byrne, titled "Multi-mode Radio Telephone," describes a "radio telephone" capable of operating in two modes: cordless, which is short-range, and cellular, which is longer-range. *See* J.A. 1352; J.A. 1353, col. 1, line 30, through col. 2, line 41. When operating in either mode, Byrne's telephone employs known encryption or other security measures. *See* J.A. 1356, col. 8, lines 16–38.

WO748, called "Wireless Communications Station and System," J.A. 1329, identifies and addresses a problem of poor wireless communications reception in buildings, *see* J.A. 1331, lines 24–26. According to WO748, wiring a building for a given signal can improve reception indoors, but running wires for several different kinds of communication is duplicative. *See* J.A. 1329 (Abstract); J.A. 1331, lines 24–30. Figure 1 of WO748 (shown below), J.A. 1343, depicts a solution to that problem using a single "base unit 10" wired for multiple signals, J.A. 1334, lines 26–30. The

base unit is connected to various "remote unit[s] 20" within a building, each remote unit having multiple antennas so as to provide wireless connectivity for multiple signals, such as cellular signals. J.A. 1335, lines 5–14.




The final reference relevant here, Raleigh, is titled "Spatio-temporal Processing for Communication." J.A. 1255. Raleigh describes how, in a communications system having multiple receivers and transmitters, transmissions traveling along different paths can result in interference and an attenuated signal. *See* J.A. 1283, col. 1, lines 21–30. To address that problem, Raleigh describes a procedure for reconstructing the original signal. *See id.*, col. 2, lines 51–63. Figure 4 of Raleigh depicts a system in which its procedure can be implemented:

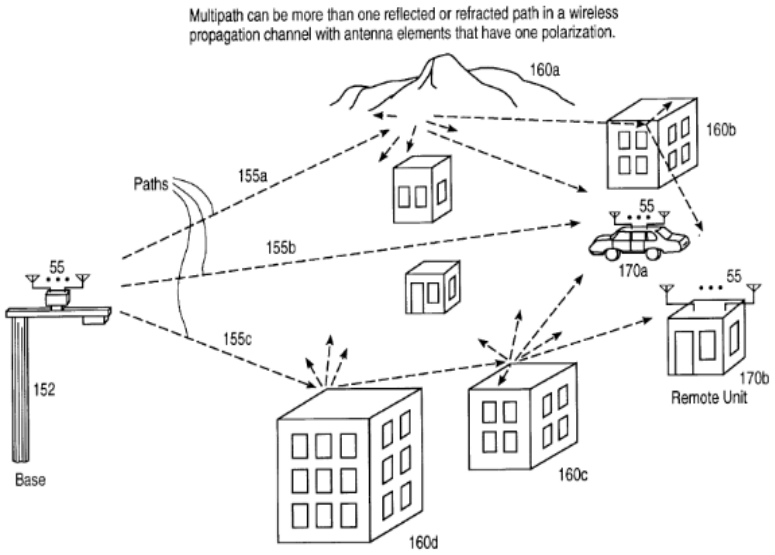



FIG. 4

J.A. 1260. Remote units 170a and 170b (not to be confused with WO748's remote units) are shown as a building and a vehicle, and each has multiple antennas in communication with base 152. J.A. 1287, col. 10, lines 22–29; *see* J.A. 1288, col. 11, lines 44–50.

Apple's petition, as to its Byrne-WO748 theory of unpatentability of claims 3 and 4, asserted that "it would have been obvious to implement WO748's infrastructure (e.g., 'remote units 20') using cellular and cordless systems such that Byrne-WO748's telephone communicates with 'remote units 20[.]'" J.A. 162. To meet the "virtual network" limitation of claim 3, not expressly disclosed by either reference, Apple relied on the testimony of its expert, Dr. Jensen, that virtual networks were within the knowledge of a relevant artisan and that it would have been obvious to modify Byrne-WO748 to include a VPN. *See* J.A. 167 (citing J.A. 1152–53). According to the petition, "it would have been known that network devices/interfaces (like Byrne's telephone and WO748's remote and base units) are part of a virtual network," and VPNs had "various benefits"

that would have motivated a relevant artisan to modify Byrne and WO748. *Id.* (emphasis removed). Dr. Jensen, elaborating on those benefits, stated that VPNs enable "securing the network" and "improve network scalability." J.A. 1152–53. Because the modification of WO748 alone to include a VPN is not in dispute in the present appeal, for simplicity we hereafter generally treat the VPN as if it were a part of WO748, referring to "WO748's VPN."

For all the Raleigh-Byrne grounds of unpatentability, applicable to all the claims at issue on Apple's appeal (3, 4, 15–20), the petition asserted, as relevant here, that "the telephone or remote unit in the combination [would have been] implemented using Raleigh's [procedure] for long-range . . . communication with Byrne's protocols for short-range, cordless communication." J.A. 180. Apple repeatedly said or implied that the functionality of Raleigh should be implemented in Byrne's device to yield a telephone. *See*, *e.g.*, J.A. 181 ("[T]he telephone's cellular system uses multiple transmitters/receivers[.]"); J.A. 181–82 (". . . implement Raleigh's remote unit into various types of products such as telephones or other wireless devices."). It also suggested, however, that Byrne's functionality should be incorporated into Raleigh's "remote unit," though without specifying what form the remote unit would take. *See*, *e.g.*, J.A. 184 ("[A relevant artisan] would have found it obvious to modify Raleigh's remote unit to include Byrne's circuitry[.]").

C

The Board, acting on behalf of the PTO's Director, instituted the requested IPR in December 2022, J.A. 121, and issued its final written decision in December 2023, *Decision*, at *1. In an aspect of its decision not challenged here, it held claims 1, 5–9, and 12–14 unpatentable for obviousness. *Id.*, at *5–20, 24–31.

The Board rejected Apple's challenge to claims 3 and 4 based on Byrne and WO748, giving two reasons. First, it

found that Apple had failed to establish a motivation to modify the combination of Byrne and WO748 to include a VPN. *See id.*, at *20–24. The Board determined that "the full record [did] not make clear how the asserted benefits of a VPN would apply to the cordless and cellular communications of Byrne's [telephone.]" *Id.*, at *23. Finding "no indication in the record that a phone like Byrne's [ ] could initiate or connect to a virtual network," the Board concluded that Apple's evidence of the advantages of VPNs "pertain[ed] to network communications," so "would not describe benefits of a VPN for Byrne's [telephone]." *Id.*, at *24. Second, and independently, the Board concluded that Apple "[did] not address" whether a relevant artisan would reasonably have expected to succeed in modifying "WO748 to be configured to join a virtual network." *Id.*

The Board also ruled that Apple had failed to prove any of the Raleigh-Byrne grounds of obviousness because Apple had not shown a reasonable expectation of success in combining those references in a telephone. *Id.*, at *31–39. The Board determined that the petition's theory of obviousness required the combination to be implemented in a telephone notwithstanding that the petition "[could] be read to add only Byrne's cordless circuitry to Raleigh's remote unit." *Id.*, at *38. The Board recounted both Smart Mobile's evidence of technical challenges to making the combination and Apple's counterarguments. *Id.*, at *34–36. Then, the Board summarized Apple's position as "conclud[ing]," "based on the teachings of Raleigh and Byrne," that a relevant artisan "would have understood that the intended operations [*i.e.*, Raleigh's and Byrne's systems] would be achievable in parallel." *Id.*, at *37 (citation omitted). But, the Board found, "[t]he cited portions of Raleigh and Byrne do not describe adding Raleigh's signal processing system to a radio telephone such as Byrne's[.]" *Id.* Thus, persuaded by Smart Mobile's evidence that a relevant artisan would have been deterred by various "implementation challenges," the Board found no reasonable expectation of

success in making the combination. *Id.*, at *37–38 (citation omitted). Accordingly, it held that Apple had not shown any challenged claim to be unpatentable on the Raleigh-Byrne grounds, resulting in claims 2–4 and 15–20 being upheld. *See id.*, at *38–39.

Apple requested director rehearing, and its request was denied. It timely appealed following that denial. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. §§ 141(c), 319.

II

The existence of a motivation to combine references and the existence of a reasonable expectation of success are questions of fact. *PAR Pharmaceutical, Inc. v. TWI Pharmaceuticals, Inc.*, 773 F.3d 1186, 1196–97 (Fed. Cir. 2014) (citations omitted). We review the Board's findings of fact for substantial evidentiary support. *Corephotonics, Ltd. v. Apple Inc.*, 84 F.4th 990, 1001 (Fed. Cir. 2023). Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consolidated Edison Co. of New York v. National Labor Relations Board*, 305 U.S. 197, 229 (1938).

The present appeal relates to Apple's Byrne-WO748 obviousness challenge, which applies to claims 3 and 4 of the '943 patent, and its Raleigh-Byrne obviousness theories, which collectively bear on all the upheld claims, *i.e.*, claims 2–4 and 15–20. We first address the Byrne-WO748 ground, and then the Raleigh-Byrne grounds. We reject Apple's arguments and affirm the decision of the Board.

A

Apple challenges each of the two bases on which the Board upheld claims 3 and 4 against Apple's argument for obviousness based on the Byrne-WO748 combination. First, Apple challenges the Board's finding that a motivation to combine Byrne and WO748 had not been proved, asserting that the Board too narrowly focused on whether

a relevant artisan would have seen advantages to Byrne's telephone communicating over the WO748 VPN. Apple Opening Br. at 31–45. Second, Apple challenges the Board's finding that a reasonable expectation of success in making the combination had not been proved, asserting that the Board failed to consider arguments and evidence presented by Apple. Apple Opening Br. at 45–51. We hold that the Board did not err in finding no motivation to combine, so we do not reach the second ground.

1

The claim language is important to understanding and evaluating Apple's principal argument on appeal in support of its contention that the Board erred in finding no persuasive proof of the asserted motivation to combine. Claim 1 recites a "wireless communication device." Dependent claim 3 then adds that "[t]he device of claim 1" is

> further in communication with a network switch box configured with a plurality of ports and configured to connect to a plurality of networks to forward packets between different networks and join a virtual network.

'943 patent, col. 12, lines 16–20. The Board found that Apple did not persuasively show a motivation to combine Byrne and WO748 to arrive at *Byrne's phone itself communicating over WO748's VPN*, and one sufficient reason for that finding was an underlying finding that the record did not show that Byrne's phone, with its encryption or other security measures, would benefit from being used on a VPN. *Decision*, at *23–24.

Apple asserts that "challenged claims [3 and 4] do not require the 'wireless device' of claim 1 (Byrne's phone) to connect to a virtual network. . . . [I]t is the 'network switch box' in claim 3 that joins the virtual network, not the wireless device." Apple Opening Br. at 37. Relying on that asserted claim construction, Apple criticizes the Board's

decision, writing: "*Because the claims do not require the 'wireless communication device' of claim 1 (Byrne's phone) to connect to a virtual network*, there is no reason to require the modification to benefit Byrne's phone." Apple Reply Br. at 3–4 (emphasis added and removed). The premise of Apple's argument on appeal thus is a position on the proper construction of claim 3—as not requiring the device to communicate over the virtual network—on which Apple rests its contention that its petition could not properly be understood as asserting a motivation to have Byrne's phone communicate over WO748's VPN.

But the Board clearly understood Apple's petition as arguing for a motivation to combine the references so that Byrne's phone would communicate over WO748's VPN. The Board took Apple's position to be "that Byrne's [cordless cellular telephone] and WO748's remote and base units *are part of a virtual network* and that one of ordinary skill in the art would have been motivated to *configure such components to join a VPN*." *Decision*, at *21 (emphases added) (citing J.A. 167 (petition)). Later, when discussing the merits of the combination, the Board concluded that Apple had failed to show "that a phone like Byrne's [ ] could initiate or connect to a virtual network." *Id.*, at *24. And the Board rejected the motivation assertion because Apple had not shown that a relevant artisan would see a benefit to having Byrne's phone, with its encryption or other security, communicating on a VPN. *Id.*, at *23–24.

On appeal, Apple's main argument for disturbing the Board's ruling rests on the assertion that the Board was unreasonable in its understanding of the motivation theory presented in Apple's petition. In particular, Apple challenges the understanding of the petition as asserting a motivation to make a combination in which Byrne's phone communicated over WO748's VPN. But Apple has not made a showing that the Board unreasonably understood the motivation assertion of Apple's petition.

For one thing, Apple has not shown, as indirectly indicating that the Board's reading of Apple's petition was unreasonable, that it is unreasonable to read claim 3 as requiring the device to communicate over the VPN. To reject the claim-construction premise of any such argument, we need not definitively decide the proper construction. Indeed, neither party sought a claim construction on the point before the Board, *see Decision*, at *4, and even on appeal Apple does not squarely present a claim-construction contention, making a claim-construction suggestion only in passing and without full analysis, *see* Apple Opening Br. at 37; Apple Reply Br. at 3–4. It suffices to observe that a reading of claim 3 as contemplating the device's communicating over the virtual network is a reasonable one on its merits given the intrinsic evidence.

The claim language can readily be understood to require the recited "communication" with a network switch box "configured to . . . join a virtual network" as demanding that the wireless device be capable of communicating in or with the virtual network. And the specification provides support for that reading. The patent's discussion of virtual networks asserts that, in one embodiment, a cellular telephone may communicate "through" a network switch box which has joined a VPN "to [a] server." '943 patent, col. 8, lines 52–59 (describing fig. 13). In the corresponding figure, the cellular telephone is depicted as part of "VPN 1302" which involves networked communication. *See id.*, fig.13; *id.*, col. 8, lines 44–48. In a related embodiment, the specification discloses that devices like a telephone "in" a VPN "may operate wireless or wired devices . . . connected to other wired or wireless networks," contemplating networked communication by such a telephone. *See id.*, col. 8, lines 33–39; *id.*, fig. 12. And in the summary of the invention, the patent is described as relating to "[Internet Protocol] based cellular telephones." *Id.*, col. 1, lines 43–46; *see also id.* (Title) (". . . Internet Protocol [ ] Based Wireless Devices . . ."); *id.* (Abstract) (describing patented method

involving "multiple Internet Protocol [ ] based wireless data transmissions . . . between a wireless device and a server"); *id.*, col. 10, lines 29–33, 41–53 (reciting features of invention requiring networked communication by a telephone).

More directly focusing on Apple's petition, we conclude that Apple has not shown that the Board unreasonably understood Apple's petition. We would not disturb the Board's reading of Apple's petition except for an abuse of discretion. Here, Apple has not developed an argument under that standard. And in any event, the Board had a sufficient basis in Apple's petition for understanding that Apple was arguing for satisfaction of claim 3 by Byrne's phone joining the VPN.

"The Board is entitled to discretion in how it interprets petitions." *Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed. Cir. 2023). It abuses that discretion when its decision "(1) is clearly unreasonable, arbitrary, or fanciful; (2) is based on an erroneous conclusion of law; (3) rests on clearly erroneous fact finding; or (4) involves a record that contains no evidence on which the Board could rationally base its decision." *Ericsson Inc. v. Intellectual Ventures I LLC*, 901 F.3d 1374, 1379 (Fed. Cir. 2018) (citation omitted). In this case, we conclude that the Board acted within its discretion in reading Apple's Byrne-WO748 theory as involving Byrne's telephone itself joining WO748's VPN to communicate over it.

That is the most natural understanding of the (terse) language Apple used in the petition, where it said that "network devices/interfaces (*like Byrne's telephone* . . .) are *part of a virtual network*." J.A. 167 (emphases added); *see* J.A. 1152 (first Jensen declaration) (same). Portions of the expert testimony, too, support the Board's reading—as Apple itself says, "Dr. Jensen[ ] provided an illustration and a corroborating reference [ ] showing how subscriber units *like phones* would connect to a VPN." Apple Opening Br.

at 44 (citing J.A. 2268–69) (emphasis added). Apple quotes the petition's statement that "[the] remote and base units in WO748 . . . join a VPN," Apple Opening Br. at 37 (citing J.A. 167) (emphasis removed), but that statement does not undermine the Board's reading of the petition's theory. That sentence does not entail something contrary to the petition's statements about the relation of Byrne's telephone to the VPN—that Byrne's telephone would be "part of a virtual network." J.A. 167.

We see no sound basis for declaring that the Board could not reasonably give Apple's presentation of its Byrne-WO748 obviousness theory its most natural interpretation. In particular, as already noted, this is not a case in which there is only one reasonable interpretation of the claim at issue and the Board had to read the petition to align with that interpretation. Nor did Apple, before the Board, timely stake out the claim-construction position it now implicitly advances on appeal or otherwise make clear the view of its Byrne-WO748 obviousness theory it now presses. On the record here, we see no abuse of discretion in the Board's reading of Apple's petition on this point.

2

Apple also asserts that, even on the understanding that Apple's theory contemplated Byrne's telephone's joining a VPN (as a modification to WO748), the Board erred because its motivation-to-combine analysis was legally erroneous. *See* Apple Opening Br. 38–45. We disagree.

Apple had the burden to demonstrate "that a skilled artisan would have been motivated to combine the teachings of [Byrne and WO748, modified with a VPN] to achieve the claimed invention." *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1360 (Fed. Cir. 2012) (citation omitted). Here, as discussed, the Board could properly focus its inquiry on whether Apple presented persuasive proof of a motivation to combine (and modify) the references to yield Byrne's telephone capable of joining a VPN.

The Board cited substantial evidence, noting the Byrne phone's encryption and carefully scrutinizing Apple's evidence, for its finding that Apple did not establish a persuasive reason that a VPN "would provide additional 'communication privacy' on top of Byrne's data encryption for cordless and cellular systems"—or, therefore, that a relevant artisan would be motivated to make the asserted combination. *Decision*, at *23. Apple has not shown a lack of substantial-evidence support for that finding.[1]

Apple invokes our decision in *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373 (Fed. Cir. 2023), but that decision does not show error in the Board's analysis here. In that case, we reversed the Board's determination that no motivation existed to combine two references, where each addressed the same problem in a different way and the combination involved swapping one reference's mechanism for the other's. *See PACT*, 61 F.4th at 1380–81. We invoked the familiar principle that, to demonstrate a motivation to combine, it is not necessary to show that one reference "improve[s]" on another reference with respect to a problem, where the first reference provides, for addressing a common problem, a "suitable option to replace" the relevant feature of the other reference. *Id.* (internal quotation marks and citation omitted). On the particular facts in *PACT*, that principle controlled, because it was clear that a relevant artisan would view the two existing approaches to a single problem as sufficiently

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[1] Besides addressing Apple's reliance on privacy benefits of VPNs, the Board referred to and rejected Apple's reliance on "network scalability" benefits. *Decision*, at *23. On appeal, Apple merely adverts to the latter benefits in passing. Apple Opening Br. at 38, 39, 43. It provides no meaningful argument for why, as a factual matter, the Board lacked substantial evidence for its treatment of scalability. We consider any such contention forfeited.

interchangeable to motivate replacing one with the other. *See id.* That ruling does not undermine the Board's determination in the present case that Apple's asserted VPN security advantages were insufficient to demonstrate a motivation to combine. It is not proposed here to swap out Byrne's security features for security features of VPNs. Indeed, the latter, for networked communications, are hardly a "suitable option to replace" the encryption of Byrne's telephone, which is crucial for the cordless and cellular operations. *PACT* does not foreclose the possibility that a proposed addition of features might be, as the Board found here, insufficiently motivated in light of the primary reference's features.[2]

The Board therefore did not err in finding that Apple failed to prove a motivation to combine Byrne with WO748 (as modified with a VPN). That conclusion is sufficient to affirm the Board's conclusion that claims 3 and 4 were not

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[2] The dissent focuses on Apple's second expert declaration (submitted with Apple's Reply), which states "that a VPN provides a 'secure tunnel' through a 'public network,'" Dissent at 3 (quoting J.A. 2268 ¶ 28), and infers that, therefore, encrypted cellular communications in a VPN would benefit from network security on a "second wired [communications] leg taking place over a public network," *id.* But the Board could reasonably find no persuasive basis for the dissent's inference. Neither the cited passage nor Apple's Reply reference to it asserted that there would be a marginal benefit from a VPN's "secure tunnel" to already-encrypted cellular communications like those of Byrne's phone. *See* J.A. 2268 ¶ 28 (no mention of Byrne's cellular communications or encryption); J.A. 462–63 (Apple's Reply, citing J.A. 2268 ¶ 28 simply for the propositions that "implementing a VPN for a network . . . was well-known" and that VPNs were "obviously applicable" to WO748*'s* components).

shown to be unpatentable based on the Byrne-WO748 combination. We need not and do not address the Board's finding of no proven reasonable expectation of success in making the same combination.

B

We turn next to the Board's finding that a relevant artisan would not have reasonably expected to succeed in combining Raleigh and Byrne—a finding the Board relied on to reject Apple's Raleigh-Byrne challenges to claims 2–4 and 15–20. Apple contends that the Board erred in two ways: first, by limiting its analysis to Raleigh-Byrne combinations implemented in a telephone and, second, by ignoring Apple's evidence and holding Apple to an incorrect legal standard. *See* Apple Opening Br. at 51–66. We reject these contentions.

1

According to Apple, the Board abused its discretion in reading the petition's references to Raleigh's "remote unit," in the argument for obviousness based on the Raleigh-Byrne combination, as limited to telephones, thus not addressing, *e.g.*, a Raleigh-Byrne combination implemented in a vehicle. Apple Opening Br. at 56–61. We disagree. The Board acted within its discretion in assessing, and rejecting, the only theory of how Raleigh and Byrne could be combined that was clearly presented in Apple's petition.

As discussed above, the interpretation of an IPR petition is a matter of discretion for the Board. *See Netflix*, 84 F.4th at 1377; *Corephotonics,* 84 F.4th at 1002. "While the Board should not take an overly mechanistic view of a petition and decline to address an argument because the petitioner did not present it with ideal vigor and clarity, the Board should also not have to decode a petition to locate additional arguments beyond the ones clearly made." *Netflix*, 84 F.4th at 1377; *see id.* at 1377–78 (collecting cases).

Apple's petition did not clearly present, so the Board was not required to address, any combination of Raleigh and Byrne other than one resulting in a telephone. The straightforward import of the petition's description of the claimed "device" in the combination is that it is a telephone: The petition introduces the combination as "implement[ing] Raleigh's [ ] systems . . . as the cellular system described by Byrne such that *the telephone's* cellular system uses multiple transmitters[ ] . . . . *while the telephone's cordless system remains operative to enable Raleigh-Byrne's telephone* . . . ." J.A. 181 (emphases added). The same section concludes by asserting the existence of "a reasonable expectation of success in implementing a *dual-mode telephone* with Raleigh[ and Byrne's] known communication design[s]." J.A. 186 (emphasis added).

To be sure, there are several references to Raleigh's "remote unit" in the relevant portion of the petition. *See*, *e.g.*, J.A. 180 (describing "the telephone or remote unit in the combination"); J.A. 181 (asserting motivation to "incorporate the [ ] benefits proffered by Byrne into Raleigh's remote unit"). Those references are naturally understood as a general preface to the more specific combination then asserted. For example, the petition, after stating that "Raleigh's remote unit is . . . modifiable to operate[ ] with a variety of cellular terminals" such that a skilled artisan would be inclined to "implement Raleigh's remote unit into various types of products such as telephones or other wireless devices," J.A. 181–82, specifies that "Raleigh-Byrne's remote unit would improve the cellular system of Byrne's telephone," J.A. 183. Significantly, the petition does not specifically identify any other form the combination it relies on would take. *See* J.A. 180–86.

Apple's arguments based on Raleigh and Byrne for the obviousness of several claims provide further support for the Board's reading of the Raleigh-Byrne combinations as exclusively involving a telephone. Apple said, referring to claim 1, that a relevant artisan would have understood the

combination to "apply Raleigh's techniques utilizing multiple transceivers and antennas *as the cellular system of Byrne's telephone*." J.A. 192 (emphasis added). Similarly, as to claim 5, the petition asserted that a skilled artisan "would have modified Byrne's cellular system based on Raleigh's structures and techniques . . . while *Byrne's cordless system remains operative*." J.A. 199–200 (emphasis added). Apple's arguments for the other relevant claims were similar. *See*, *e.g.*, J.A. 205 (for claim 8, referring to "the telephone[ ]" of the combination); J.A. 207 (for claims 3–4, referring to "Raleigh-Byrne's telephone"); J.A. 216 (for claims 13–14, repeatedly mentioning "the telephone" of the combination).

To the extent that a few of the petition's references to Raleigh's remote unit might suggest implementing the combination in some unidentified device other than a telephone, any such theory is scattered across isolated sentences or clauses in seven pages. The Board was not required to engage with that barely articulated argument. *See Netflix*, 84 F.4th at 1377. The Board's recognition of Apple's contention that it is *possible* to read the petition as Apple suggests, *see Decision*, at *38, is not equivalent to a statement that it would be unreasonable to read the petition otherwise. Just the opposite—the Board's decision, discussing Apple's reading, explains that a non-telephone combination was not sufficiently presented in the petition and therefore did not have to be considered. *See id.* That conclusion was reasonable.

2

In the alternative, Apple argues that, as to Raleigh and Byrne combined in a telephone, the Board ignored Apple's evidence and required (erroneously) identification of express teachings in Raleigh or Byrne that would show expectation of success in making the combination. Apple Opening Br. at 62–66. Those contentions lack merit.

The Board did not ignore Apple's evidence; rather, it found Apple's evidence unpersuasive. The Board methodically recounted each of Apple's reasons for finding a reasonable expectation of success in making a Raleigh-Byrne telephone, including the testimony provided by Dr. Jensen. *See Decision*, at *35–36 (citing, *inter alia*, J.A. 2284–97 (second Jensen declaration)). Dr. Jensen, for his part, largely supported his opinions by citations to the disclosures of Raleigh and Byrne. *See* J.A. 2284–97; J.A. 1169–76. The Board observed that Smart Mobile had identified technical challenges to making a Raleigh-Byrne telephone, that Apple's and Dr. Jensen's "cited portions of Raleigh and Byrne do not describe adding Raleigh's signal processing system to a radio telephone such as Byrne's" and that Apple did "not provide any further argument or evidence elsewhere in the record to explain why one of ordinary skill in the art would have had a reasonable expectation of success." *Decision*, at *37. The Board reasonably concluded that "the full record [ ] shows insufficient support for [Apple's] only reasonable expectation of success argument for the Raleigh-Byrne combination." *Id.*, at *38.

Apple's complaint that the Board "did not address" Dr. Jensen's testimony and thus failed to consider "key evidence" is unfounded. Apple Opening Br. at 65. The Board addressed the thrust of Dr. Jensen's testimony when it referred to the portions of Raleigh and Byrne cited extensively by Dr. Jensen and found them unresponsive to Smart Mobile's evidence. *See Decision*, at *37; J.A. 2284–97. No more was necessary—"the Board is not require[d] . . . to address every argument raised by a party or explain every possible reason supporting its conclusion." *Yeda Research v. Mylan Pharmaceuticals, Inc.*, 906 F.3d 1031, 1046 (Fed. Cir. 2018) (citation omitted). It is enough that the Board considered the "important aspect[s] of the problem" and identified the argument that carried the day. *See Medtronic, Inc. v. Teleflex Innovations S.a.r.l.*, 70 F.4th 1331, 1343–44 (Fed. Cir. 2023) (quoting *Motor Vehicle*

*Manufacturers Association of the United States, Inc. v. State Farm Mutual Automobile Insurance Co.*, 463 U.S. 29, 43 (1983)). We see no indication that the Board failed to apprehend or consider Apple's arguments.

Neither did the Board apply the wrong legal standard in weighing the evidence. Apple singles out the Board's statement that "[t]he cited portions of Raleigh and Byrne do not describe [the combination]" as betraying an erroneous requirement that Apple identify an express teaching in the references as showing a reasonable expectation of success. Apple Opening Br. at 65 (citing *Decision*, at *37). Read in context, though, that passage of the decision is simply an acknowledgement that Apple's own expectation-of-success arguments were founded on the disclosures of Raleigh and Byrne. The decision's reference to the lack of proof "elsewhere in the record" confirms that the Board was not articulating a requirement that Raleigh and Byrne themselves rebut Smart Mobile's arguments, but instead was concluding that none of Apple's evidence persuasively did so. *See Decision*, at *37. Because Apple has failed to demonstrate error in the Board's interpretation of the petition's Raleigh-Byrne obviousness arguments or in the Board's evaluation of Apple's corresponding evidence for a reasonable expectation of success, we affirm the Board's rejection of the Raleigh-Byrne grounds of unpatentability.

## III

We have considered Apple's remaining arguments and find them unpersuasive. For the foregoing reasons, the decision of the Board is affirmed.

**AFFIRMED**

NOTE: This disposition is nonprecedential.

# United States Court of Appeals for the Federal Circuit

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**APPLE INC.,**
*Appellant*

**v.**

**SMART MOBILE TECHNOLOGIES LLC,**
*Appellee*

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2024-1623

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Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2022-01004.

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DYK, *Circuit Judge*, concurring-in-part and dissenting-in-part.

I join the majority opinion affirming the Board's conclusion that claims 2–4 and claims 15–20 were not obvious over U.S. Patent No. 6,144,711 to Raleigh et al. in view of European Patent Application Publication No. 0660626 to Byrne ("Byrne"). However, Apple also asserts that claims 3 and 4 are unpatentable as obvious over Byrne in view of International Patent Publication No. WO 98/27748 to Farber et al. ("WO748"). The majority decides that there was substantial evidence to support the Board's finding that a person of ordinary skill in the art ("POSA") would have

lacked motivation to combine Byrne with WO748 to join a virtual network. Contrary to the majority, I think that substantial evidence does not support the Board's determination that there was insufficient motivation to combine Byrne and WO748.[1] I respectfully dissent as to claims 3 and 4.

I

The relevant claim limitation in the Byrne-WO748 combination is "wireless communication device . . . further in communication with a network switch box . . . configured to . . . join a virtual network." '943 patent claims 1, 3. The Board concluded that there would not have been a motivation to combine Byrne's phone with the WO748's remote unit (network switch box) configured to join a virtual network. The Board determined that Byrne already describes data encryption for cordless and cellular systems, and that Apple failed to establish that a POSA would have been motivated to add a virtual network for "additional" security "on top of Byrne's data encryption for cordless and cellular systems." J.A. 53. In the Board's view, this was so because Byrne provides data encryption for cordless and cellular systems, and Apple's evidence failed to establish that a virtual network would provide any added security benefit to that already disclosed by Byrne. In other words, the Board found that, in Apple's proposed combination, Byrne's encryption provided enough security between the phone and the WO748 remote unit, and Apple did not show enough evidence of any need for security between the remote unit and points beyond. In my view, the Board's decision is not supported by substantial evidence because the

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[1] I agree with the majority's conclusion that the Board reasonably understood Apple's petition to propose a Byrne-WO748 combination in which Byrne's phone itself would communicate over a virtual network through WO748. *See* Majority Op. 12–14.

undisputed record showed that a POSA would have been motivated to combine Byrne with WO748 to provide additional security between the remote unit and the Internet or the telephone network.

Apple proposed that the Byrne-WO748 combination could operate through a virtual network or virtual private network ("VPN") for "known benefits." J.A 167. Together with the petition, Apple's expert, Dr. Jensen, testified that such known benefits included "stopping [a] third party's access to the network." J.A. 1152. Apple submitted a second declaration from Dr. Jensen with its IPR Reply, in which Dr. Jensen pointed to references that disclosed that WO748's remote units would connect to network services via a public network, J.A. 2269 (annotating WO748's Figure 1), and that a VPN provides a "secure tunnel" through a "public network," J.A. 2268 ¶ 28 (citing J.A. 2907 col. 5 ll. 21–23) (emphasis added). He also testified to "strong demand" for using VPNs for benefits including "communications privacy," J.A. 2269–70 ¶ 29 (citing J.A. 2981; J.A. 3088 col. 1 ll. 48–54). There was no contrary testimony.

In other words, in a combination of Byrne with WO748, there are at least two communication legs: a first wireless leg between Byrne's phone and the WO748 remote unit, and a second wired leg taking place over a public network. Even if Byrne provided adequate encryption to protect communications between Byrne's phone and the WO748 remote unit, Apple's evidence pointed to a motivation to modify the WO748 remote unit to protect the communications leg that would take place over a public network between the remote unit and an external network service provider—that is, to provide a "secure tunnel" through a "public network." Smart Mobile made no suggestion that Byrne's encryption would provide security through a public network.

The Board correctly observed that Byrne already teaches encryption for wireless communications, providing a measure of privacy. But this underscores, not undermines, Apple's argument that a POSA would have been motivated to protect the privacy of communications. The Board faults Apple for not demonstrating that "Byrne's cordless and cellular communications are susceptible to tracking activities by a third-party application or website." J.A. 52. But this misses the point. The Board does not explain why a POSA would only be interested in deterring wireless eavesdropping but not wired eavesdropping. According to Apple's uncontroverted evidence, configuring the Byrne-WO748 combination to join a virtual network would have protected the privacy of the wired public-network leg by providing a "secure tunnel" through the "public network."

## II

While the majority does not reach the question, I think the Board erred in concluding Apple did not establish reasonable expectation of success. As it is here, reasonable expectation of success is frequently "intertwined" with motivation to combine. *Elekta Ltd. v. ZAP Surgical Sys., Inc.*, 81 F.4th 1368, 1376 (Fed. Cir. 2023). Apple presented uncontroverted evidence that combining Byrne with WO748 would be "routine and predictable," J.A. 2271–72 ¶ 33, and that "implementing a VPN for the networks like those described in Byrne-WO748 was well-known," J.A. 2268 ¶ 28. This was enough to establish a reasonable expectation of success.

## III

Because I see no substantial evidence to support the Board's findings that a POSA would have lacked motivation to combine and reasonable expectation of success in combining Byrne with WO748 to join a virtual network to create a "secure tunnel" through a "public network," I would vacate the Board's findings that claims 3 and 4 were

not unpatentable as obvious and remand. I respectfully dissent as to claims 3 and 4.