

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner

v.

S.M.R INNOVATIONS LTD AND Y.M.R TECH LTD,
Patent Owners

Inter Partes Review Case No. IPR2024-01048
U.S. Patent No. 10,547,648

**PETITIONER'S AUTHORIZED RESPONSE TO PATENT OWNER'S
REQUEST FOR DIRECTOR REVIEW**

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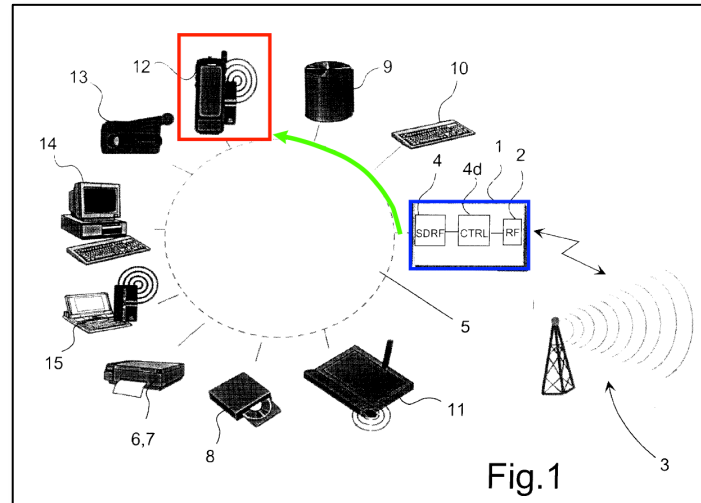
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I. INTRODUCTION

Patent Owner's ("PO") Request for Director Review (Paper 30, "Request") turns on fundamental misunderstandings of the law and mischaracterizations of the record. The Request criticizes the Board for allegedly backfilling "key missing capability" in the prior art comprising the Proposed Grounds "in an effort to cure a fundamental deficiency in [Petitioner's] case." Request, 2. Notably absent from the Request is an acknowledgement that PO's critique turns entirely on *unclaimed* implementation details. Indeed, PO did not allege that the prior art comprising the Proposed Grounds failed to teach or suggest *claimed* capabilities. It did not argue that the combined teachings were technically incompatible or even that a POSITA would have experienced difficulty in combining them. Instead, "[PO] argue[d] that Petitioner failed to explain how the proposed combination . . . would have operated" with respect to unclaimed features like voice transcoding. FWD (Paper 29), 28-29 (citing PO Resp., 25-36; Sur-Reply, 2-10). The Board correctly observed that these unclaimed implementation details were "well known at the time" and that PO and its expert failed to introduce evidence that "transcoding or the other [unclaimed] modifications . . . would have been outside the knowledge and ability of a POSITA." *Id.*, 29-30. From this, the Board correctly concluded that Petitioner satisfied its burden of demonstrating the Challenged Claims obvious. The Request provides the Director no reason to deviate from the Board's correct and well-reasoned conclusion.

device 1 (blue) connected to wireless audio interface 12 (red), which provides better audio quality for a cellular voice call than the mobile device provides natively:



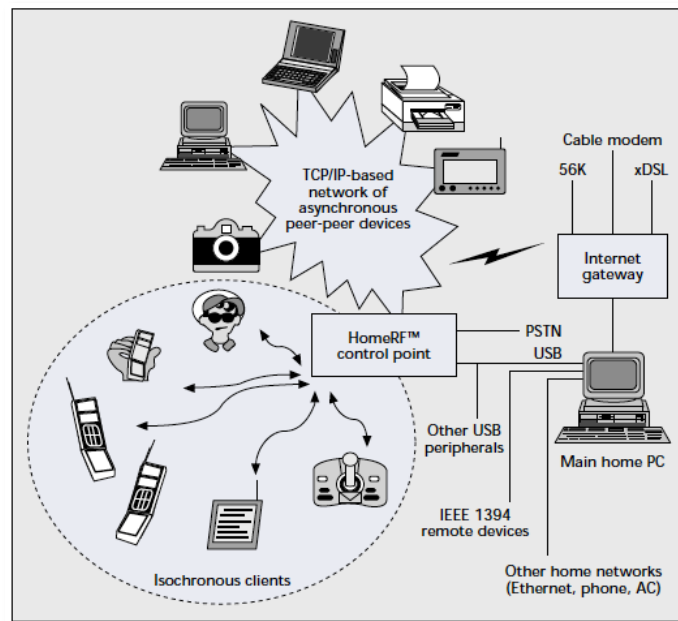
Id., 30. The Petition established that a POSITA would be motivated to use Zhang’s WLAN helper environment (connected via Fillebrown’s central router) to route a cellular voice call to a wireless audio device pursuant to Pasanen, realizing the improved audio benefits that Pasanen expressly identifies. *Id.*, 9-32.

PO’s Preliminary Response (Paper 6, “POPR”) focused largely on claim construction, arguing that certain claim limitations must be performed in a specific sequence. The Board rejected this sequencing argument at institution (Paper 8), PO sought Director Review (Paper 11), and acting Director Stewart denied the request for Director Review (Paper 14).

PO’s Response (“POR”) continued to advocate for the twice rejected sequencing. In addition, the POR argued that, to route a cellular call to a wireless audio device over a WLAN, the voice data must be transcoded, converting the voice

data between different coding standards. POR (Paper 15), 32-34. PO argued that “neither Zhang nor any of the other references in the proposed combination refer to such a transcoding process” and insisted that the Petition was deficient for failing to address this unclaimed detail. *Id.*, 34-35. Notably, PO’s expert did not suggest that transcoding was underdeveloped or would have been difficult to implement.

The Reply (Paper 17) established that transcoding was conventional (Reply, 17-18) and that transcoding was *native* in HomeRF such that Zhang’s HomeRF embodiment would have built-in transcoding functionality. *Id.*, 19-22. The following illustrates HomeRF’s intermediate control point that routes voice calls to nodes such as wireless headsets:



Id., 21-22; *see also* Ex. 1037, ¶15 (Petitioner’s expert explaining that the control point is an “intermediary routing device to route . . . phone calls . . . to a wireless node, such as . . . a mobile phone . . . and wireless headset”).

Unable to dispute HomeRF’s native voice transcoding and facing unambiguous evidence that transcoding was conventional, PO’s Sur-Reply shifted focus away from its position that Zhang’s hardware could not have transcoded voice data. In its stead, PO newly targeted the “optional” nature of isochronous voice support in HomeRF. PO argued that HomeRF ***does not mandate*** isochronous voice support in all devices. Sur-Reply (Paper 22), 3-10. Without expert support, PO suggested one might implement Zhang’s HomeRF embodiment without isochronous voice support. *Id.*, 5-6. And if one were to implement Zhang without isochronous voice support, PO argued, Zhang’s mobile device might not possess the ability to route voice calls. *Id.* Accordingly, rather than wrestle with the pertinent question of whether a POSITA would have found it straightforward to implement Zhang’s HomeRF embodiment with isochronous voice support, PO sought to distract the Board with theories about how Zhang ***might*** be deployed in a manner that falls outside the claims. PO then argued that Petitioner was obligated to have foreseen PO’s arguments—presented for the first time in the Sur-Reply—and to have affirmatively mapped HomeRF’s isochronous voice support in its Petition. *Id.*, 10.

(imploing Board to “reject Petitioner’s [attempt] to read into Zhang’s cellular phone . . . the optional functionality of the HomeRF specification for handling [] voice”).

At the Hearing, the Board pressed PO to explain the nature of its critique. Paper 28, 45:23-46:2 (“Could you characterize your argument in a [] broader way for us? Is the argument that Zhang is not sufficiently enabling? Or are you arguing [the] references aren’t operable . . . or are you arguing that petitioner just didn’t lay out its case?”). PO referred the Board to *Broadcom* and *ActiveVideo*, insisting that Petitioner simply failed to describe how the proposed combination would work. *Id.*, 46:3-19. The Board correctly pushed back. *Id.*, 46:20-47:1 (“The Petitioner will need to, of course, explain how the [] combination . . . operates to fulfill all the claim limitations. But . . . the claims don’t refer to an isochronous HomeRF network or a transcoding. So I’m wondering if your argument goes more to . . . expectation of success[?]”). PO suggested expectation of success is “part of the issue,” but it doubled down that the real flaw was the Petition’s failure to have foreseen and addressed PO’s critiques based on unclaimed implementation details. *Id.*, 47:2-49:6 (insisting that the combination set forth in the Petition did not address HomeRF’s isochronous functionality or its native voice transcoding).

III. PO MISUNDERSTANDS THE LAW

PO argues that Petitioner’s obviousness theory is deficient because it purportedly failed to articulate “how” the proposed Zhang, Fillebrown, Pasanen

combination is capable of receiving a call on Zhang’s mobile phone and routing it over a HomeRF network, e.g., by voice transcoding. Request, 2-3. As detailed above and throughout this proceeding, ***the Challenged Claims do not require transcoding or HomeRF***. Nevertheless, PO argues that “[o]bviousness requires an evidence-based explanation of ‘*how* specific references could be combined’ and ‘*how* any specific combination would operate or read on the asserted claims.’” *Id.*, 3 (emphasis in original). From this, PO insists the Petition was required to address every unclaimed implementation detail related to its obviousness theory.

PO misapplies three Federal Circuit opinions to support its position. *Id.*, 2-3 (citing *Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1335 (Fed. Cir. 2013); *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017); and *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1327 (Fed. Cir. 2012)). These cases support that a petitioner must explain how a combination works with respect to the ***claimed invention***. They do not, as PO insists, mandate that a petitioner address all unclaimed implementation details.

In *Broadcom Corp.*, the Federal Circuit assessed whether the record showed a reasonable expectation of success modifying the primary reference to include the claimed “data path.” 732 F.3d at 1335 (finding modifying reference with a “data path” function would result in an “unfunctional circuit”). *Broadcom* rightfully focused on success at meeting the ***claims***, not unclaimed features. The Court in *Pers.*

Web Techs., LLC drew this same line, assessing whether “a relevant skilled artisan would have had a motivation to combine Woodhill and Stefik ***in the way claimed in the ’310 patent claims at issue***¹ and would have had a reasonable expectation of success in doing so.” 848 F.3d at 993-994. As did the Court in *ActiveVideo Networks, Inc.* There, the Federal Circuit affirmed the district court’s JMOL on obviousness based on the defendant’s “conclusory and factually unsupported” expert testimony that failed to explain, out of six different references, “how any specific combination would operate or read ***on the asserted claims.***” 694 F.3d at 1327-28. The Court went on to further fault defendant’s obviousness theory for failing to explain why a POSITA “would have combined elements from specific references *in the way the claimed invention does.*” *Id.* (emphasis in the original).

PO fails to cite a single case that requires a petitioner to address every ***unclaimed implementation detail*** to carry its burden on obviousness. That is because despite PO’s misunderstanding of the law above, this is not the “standard.” “The proper inquiry is whether the relevant artisan would be motivated to make the combination to arrive at the claims’ actual limitations.” *Axonics, Inc. v. Medtronic, Inc.*, 73 F.4th 950, 957 (Fed. Cir. 2023). “A contrary view would run counter to established principles, including that the claim defines the invention whose obviousness is being assessed[.]” *Id.*; see also *Masimo Corp. v. Apple Inc.*, 2022-

¹ All emphases added unless indicated otherwise.

1631, 2023 WL 5921622 at *7 (Fed. Cir. Sep. 12, 2023) (rejecting patentee’s arguments that relied on unclaimed design complexities in combination).

The claim language requires “media content,” such as “audio content” or “video content” to “originate[] from an external source disconnected from the LAN.” Ex. 1001, 13:6-9. As the Board correctly found, Petitioner established that “a POSITA would have been motivated to modify the combined teachings of Zhang and Fillebrown to receive media content (a phone call) originating from a disconnected, external source (a cellular communication network), as taught by Pasanen, allowing a user to participate in a cellular phone call via Zhang’s helper server (e.g., a more capable speaker and microphone).” FWD, 27.

If the Director agrees that the record supports the Board’s conclusion, the inquiry ends here. But even if the Director were to consider unclaimed implementation details concerning whether Zhang-Fillebrown is capable of transcoding, as detailed in the following sections, the record supports that there is no technical barrier preventing Zhang-Fillebrown’s hardware from transcoding a cellular phone call. The Board’s finding on this point should not be disturbed.

IV. THE BOARD CORRECTLY HELD THAT THE UNCLAIMED IMPLEMENTATION DETAILS ARE ROUTINE AND THAT A POSITA WOULD NOT STRUGGLE TO ADAPT ZHANG, AS PROPOSED

The Board correctly found that “Petitioner met its burden to show that the combination would have been obvious.” FWD, 28. Namely, the Board found that:

(1) “Zhang teaches a cellular phone (which logically receives cellular calls) and routing media to audio devices on its network. Ex. 1004, 3:25–29”; (2) “Missing in Zhang is an explicit teaching that its cellular calls (as opposed to other media) are routed”; and (3) “Pasanen explicitly teaches routing cellular calls to networked audio devices. Ex. 1006; 4:20–37.”

Id. “Taken together, routing Zhang’s cellular calls across its network would have been obvious to a POSITA.” *Id.*, 28-29. The Board credited Zhang-Fillebrown’s disclosure that the 802.11 or HomeRF networks “support routing cellular calls” and that these networks include features to implement the claimed functionality. *Id.*, 29.

Regarding the unclaimed transcoding, the Board found “though Zhang does not discuss transcoding or specific HomeRF features/protocols, which Patent Owner argues are necessary for routing cellular calls across Zhang’s 802.11 or HomeRF network, we agree with Petitioner that the ’648 patent also provides scant technical details as to how its system routes cellular calls over its local network, suggesting that such was well known at the time.” *Id.* The Board continued that “[n]aturally, some adaptation” using native features of Zhang-Fillebrown “might be required to receive a cellular call and route it over its network in view of Pasanen.” *Id.*, 30. But the Board emphasized PO has failed to indicate any evidence that shows “adding transcoding functionality would have required more than ordinary skill.” *Id.*

The Board correctly held a skilled artisan would have been capable of routing Zhang’s cellular calls across its network using the native hardware and software in Zhang-Fillebrown, including the education and experience necessary to apply

conventional transcoding functionality to convert the voice data between different coding standards. FWD, 29-30 (citing *KSR* and emphasizing an artisan’s exercise of independent judgment). This is particularly true in view of the “scant technical details” in the ’648 Patent regarding how its system routes cellular calls over its local network. FWD, 29; *Uber Techs., Inc. v. X One, Inc.*, 957 F.3d 1334, 1339 (Fed. Cir. 2020) (a specification “entirely silent” on how to achieve a claimed step or function “suggest[s] that a [POSITA] was more than capable of selecting between the known methods of accomplishing” the claimed step or function); *In re Epstein*, 32 F.3d 1559, 1568 (Fed. Cir. 1994) (“Rather, the Board’s observation that appellant did not provide the type of detail in his specification that he now argues is necessary in prior art references” supports a finding that a POSITA would have known how to implement the references); *Walmart Inc., et al. v. Power Concepts, LLC*, No. IPR2022-00534, Paper 50, at 31-32, 20-21, 55, 60-61, 115-16, 126 (PTAB Sept. 15, 2023) (“[i]n the absence of a specific description of such techniques in the [challenged] patent,” addressing complications from combinations was “within the knowledge of a person of ordinary skill”).

A. The Board Did Not Supply A New Obviousness Theory

The Board rested its FWD on the same invalidity theories advanced in the Petition. The Petition established that both Zhang’s WiFi and HomeRF WLAN embodiments satisfy the claims; pointed to Fillebrown to show both WiFi and

HomeRF use central routers to connect components in their respective WLANs; and used Pasanen for the use case of routing a cellular phone call to a wireless audio device (e.g., speaker/microphone) via a WLAN. Petition, 13-14, 19-23, 29-32. The POR observed (1) that, to route cellular calls over a WLAN, voice data must be transcoded and (2) that Zhang does not expressly discuss transcoding voice data. POR, 32-35. On Reply, Petitioner provided pages of analysis supported by its expert showing that transcoding was conventional and that Zhang-Fillebrown supported voice transcoding functionality via HomeRF. Reply, 17-22.

The parties vigorously disputed at oral argument whether the proposed combination was capable of transcoding voice data. Paper 28, 6:2-7:9, 11:15-18, 20:1-24:16, 28:21-35:25, 45:4-10, 45:22-49:14. And the Board confirmed in its FWD that Zhang-Fillebrown was so capable. FWD, 28-30. In other words, the Board simply rejected PO's arguments as to what functionality the proposed combination could perform. There is no "new theory" that PO lacked notice and an opportunity to respond to. *IGT v. Zynga Inc.*, 144 F.4th 1357, 1368-73 (Fed. Cir. 2025) (rejecting contention that Board supplied new arguments in a FWD where the "Board was properly considering, and rejecting [PO's] own argument" made in its POR).

B. PO's HomeRF "Control Point" Arguments Are Without Merit

The Request makes much of the HomeRF control point. Request, 4-6 (arguing that Petitioner was obligated to identify which component in Zhang served as the

control point), 7-9 (arguing that PO's expert identified Zhang's mobile phone as an exemplary control point and then withdrawing that identification on cross examination, purportedly leaving Petitioner without affirmative evidence of which component in Zhang's system serves as a control point), 10-11 (insisting that Petitioner shifted gears at the hearing by pointing to Fillebrown's central router as the component that connects Zhang's mobile phone and wireless speaker). For multiple reasons, this entire discussion is without merit.

First, as covered at length above, the claims do not require HomeRF or a HomeRF control point, so Petitioner was not obligated to map a control point in its Petition. This entire discussion arose from the POR identifying transcoding as an unclaimed technical barrier to the proposed combination. Petitioner's Reply established that, not only was transcoding routine, HomeRF provided native transcoding support. Reply, 17-22. Petitioner having rebutted PO's transcoding argument by pointing to HomeRF as a standardized and easy to implement solution (that is expressly referenced in Zhang and Fillebrown) did not obligate Petitioner to have addressed unclaimed transcoding functionality in the Petition. Nor did it obligate Petitioner to have gone a step further and mapped a HomeRF control point. None of this detail is claimed, and PO is simply wrong that the Petition is deficient because it did not address these easy-to-implement unclaimed features.

Second, PO is wrong that Petitioner's expert mapped Zhang's mobile device as the control point and later "retracted" that mapping. He simply corrected an obvious typo in his supplemental declaration, which PO has made a center point of its case. Petitioner's expert repeatedly and consistently testified that Zhang's mobile device and audio helper server are connected via an *intermediate* routing component. See Ex. 1003, ¶¶103-111 (mapping Fillebrown's intermediate wireless router as the component in a HomeRF network that connects Zhang's mobile device and wireless audio device). Although he did not endeavor to describe a detailed HomeRF deployment of Zhang beyond the requirements of the Challenged Claims, Petitioner's expert did describe HomeRF as "the link *between* Zhang's mobile device and audio helper server" and described the HomeRF "'control point' . . . as an intermediary routing device to route . . . phone calls . . . [to] an isochronous node (I-node) including a mobile phone . . . and wireless headset." Ex. 1037, ¶¶13-15. In two separate paragraphs addressing how HomeRF I-nodes register themselves with a control point, Petitioner's expert mistakenly stated that "I-nodes . . . perform an initial registration at a control point (e.g., *Zhang's* mobile device)." *Id.*, ¶¶12, 19. This was inconsistent with the control point being an intermediate link between Zhang's mobile phone and audio device I-nodes, and Petitioner's expert identified this "error" on cross examination when discussing HomeRF control points. Ex. 2019, 33:8-25 (attempting to identify the "error" and PO's counsel refusing to permit

the correction), 37:7-20 (identifying the “error” on redirect). Accordingly, there was no retraction. Petitioner’s expert simply corrected a misstatement.

Finally, PO is wrong that Petitioner “argued for the first time at oral argument that its combination relied on Fillebrown as providing the HomeRF control point.” Request, 10. PO’s Sur-Reply explained that HomeRF can be deployed “without requiring a control point.” Sur-Reply, 6 (citing Ex. 1039, 2, which states that “data transfer on the asynchronous network between any two peers is *directly to each other* as opposed to routed through the control point.”). As evidenced by the HomeRF materials PO quoted, HomeRF devices either communicate through an intermediate control point or communicate with one another directly. In the Proposed Grounds, Petitioner unambiguously and exclusively mapped Zhang with an intermediate routing device and expressly relied on Fillebrown as providing the HomeRF intermediate device. Petition, 19-23. Accordingly, Petitioner’s reliance on Fillebrown for the HomeRF intermediate control point finds support in the Petition. It was not, as PO argues, newly presented at oral argument without record support.

V. CONCLUSION

For all the reasons set forth above, the Director should decline to disturb the Board’s correct and well-reasoned Final Written Decision.

Respectfully submitted,

BY: /s/ Paul R. Hart

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COUNSEL FOR PETITIONER

CERTIFICATE OF SERVICE ON PATENT OWNER
UNDER 37 C.F.R. § 42.6

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(b), the undersigned certifies that on March 5, 2026, a complete and entire copy of this *Petitioner's Authorized Response to Patent Owner's Request for Director Review* was served on Patent Owner via email.

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Respectfully submitted,

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