

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.

IPR2024-01048

U.S. Patent 10,547,648

**PATENT OWNERS' REQUEST FOR DIRECTOR
REVIEW OF FINAL WRITTEN DECISION**

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Patent Owners (collectively, “PO”) respectfully request Director review and reversal of the Final Written Decision (“FWD”) in this IPR. *See* 37 C.F.R. § 42.75.

I. INTRODUCTION AND RELIEF REQUESTED

The Board determined that all independent claims of U.S. Patent No. 10,547,648 are obvious based on the combination of Zhang, Fillebrown, and Pasanen. FWD, 45. The Director should reverse the FWD because the Board abused its discretion and exceeded its authority by basing its obviousness determination on a rationale materially different from what Apple advanced.

Apple’s Petition contended that the proposed combination would have been able to receive a cellular phone call on Zhang’s mobile phone and route that call over a HomeRF network to another device. PO’s Response argued that nothing in Zhang, Fillebrown, or Pasanen discloses routing a cellular call over a local network (including a HomeRF network), and that Apple’s attempt to bridge that gap depended (at minimum) on additional functionality that the Petition did not establish were disclosed by the cited references. POR (Paper 15), 25-36.

Apple’s Reply argued that Zhang and Fillebrown’s *existing* hardware, software, and networking provided the necessary components and capability to route cellular calls over a local HomeRF network. Reply (Paper 17), 19-22. PO’s Surreply pointed out several problems with Apple’s contention. POSR (Paper 22), 3-10. In particular, Apple’s expert (on cross-examination) retracted critical

testimony. Without that testimony, Apple’s contention that Zhang and Fillebrown’s *existing* hardware, software, and networking provided the necessary capability to route a cellular call over a local network was unsupported by any record evidence.

In the FWD, the Board did not accept Apple’s argument that Zhang and Fillebrown’s existing hardware and software provided the requisite capabilities. Instead, the Board found unpatentability by reasoning that a POSITA would have been able to adapt Zhang-Fillebrown’s existing hardware to receive a cellular call and route it over a local network. FWD, 30. That “adaptation” theory—i.e., that a POSITA would modify Zhang and/or Fillebrown’s existing hardware and software—was not Apple’s argued ground. Thus, the Board supplied a new rationale for the key missing capability in an effort to cure a fundamental deficiency in Apple’s case. That was an abuse of discretion.

Director review should be granted and the FWD should be reversed.

II. FACTS

A key dispute concerned Apple’s contention that Zhang-Fillebrown-Pasanen could receive a cellular call on a mobile phone and route it to another device over a local network (which Apple argued rendered the challenged claims obvious).

A. PO Response: The Petition Failed to Prove Obviousness Because None of the References Provided the Requisite Capability

As set forth in PO’s Response (POR, 25-26), obviousness involves more than a motivation to modify the prior art to achieve the claimed invention. *See Star*

Scientific, Inc. v. R.J. Reynolds Tobacco Co., 655 F.3d 1364, 1375 (Fed. Cir. 2011) (“[e]ven if the record showed some motivation” to modify the prior art, that did not suffice to establish obviousness). An obviousness determination requires an explanation as to (i) “why the prior art references would have worked together,” *Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1335 (Fed. Cir. 2013), and (ii) why skilled artisans would “reasonably expect success in” making the modification. *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017). These showings are “a prerequisite to adequately explaining and supporting a conclusion” of obviousness. *Per. Web*, 848 F.3d at 994. Obviousness 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.” *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1327 (Fed. Cir. 2012). *ActiveVideo* held that the challenger failed to satisfy this standard:

The expert failed to explain how specific references could be combined, which combination(s) of elements in specific references would yield a predictable result, or how any specific combination would operate or read on the asserted claims. . . . This is not sufficient and is fraught with hindsight bias.

Id. (emphasis added).

PO argued that the Petition failed to meet this standard. PO explained that the Petition failed to establish that the proposed combination could route a cellular

call over a local network without additional capabilities not disclosed in the cited references (including transcoding). POR (Paper 15), 25-36, 44, 53-54.

B. Apple’s Reply Argued that Zhang and Fillebrown’s *Existing* Hardware and Software Provided the Necessary Capabilities

In Reply, Apple argued that Zhang-Fillebrown-Pasanen did include the capability to receive a cell phone call (on Zhang’s mobile phone) and route it over a local HomeRF network. Reply, 15-16, 19-20. Apple expressly represented that “the combination uses *Zhang-Fillebrown’s existing* hardware and networking.” Reply, 15 (emphasis added). Apple also stated that “*Pasanen* is used exclusively to teach the specific use case of receiving a phone call on *Zhang’s* cellular phone and passing it through to an audio helper server, or speaker. . . . In other words, *Pasanen* is not cited for any teaching relevant to hardware, but rather for what it teaches or suggests about how *Zhang’s* existing hardware could be used.” *Id.*

Apple further stated that “[t]he Petition expressly relied on Zhang’s embodiment in which its mobile device and helper servers are networked pursuant to the HomeRF standard.” Reply, 19. Apple then represented that its position was that Zhang’s (unmodified) disclosure provided the capability to receive a cell phone call on Zhang’s mobile device and route it over a HomeRF network:

PO suggests that the Petition failed to establish that *Zhang’s* hardware was so capable. . . . But Zhang’s hardware was indeed capable of transcoding this audio. Indeed, PO expressly admits that mobile phones (e.g., *Zhang’s* cellular phone) were equipped with the ability

to decode received cellular voice data in order to play the audio via the phone's speaker. . . . *Thus, the only open question is whether Zhang's mobile device was capable of reencoding the audio into a digital form for transmission within an 802.11 or HomeRF frame. It was.*

Reply, 19-20 (emphasis added). Apple concluded by once again reiterating its position that Zhang's *existing* disclosure provided the capability to receive a cell phone call and route it over a HomeRF network: "HomeRF-compatible devices, including Zhang's mobile phone and audio helper device, would include all the hardware and software to facilitate rerouting a voice call over Zhang's network." Reply, 22 (emphasis added).

The HomeRF specification discloses two types of networks: (1) a data-only asynchronous network; and (2) an isochronous network for routing landline (not cellular) phone calls. POSR, 4 (citing EX1038, 199; EX2019, 22:22-26:1). Even though Zhang does not disclose routing voice calls over a HomeRF network (POSR, 5), Apple's Reply argued that Zhang specifically disclosed an isochronous HomeRF network for routing voice calls. Reply, 19-22. The requirements for an isochronous HomeRF network differ from the requirements for an asynchronous HomeRF network. POSR, 6-10. For example, an isochronous HomeRF network for handling voice calls requires a control point. POR, 7-10. The HomeRF specification defines many capabilities that the control point must provide. *Id.*

(discussing the requirements for a HomeRF control point described in the HomeRF specification).

Apple's Reply recognized that an isochronous HomeRF network for routing landline calls required a control point. Reply, 20 ("Depicted below, HomeRF systems included a 'control point' as an intermediary routing device to route toll quality voice calls to wireless nodes, such as wireless headsets."). Thus, it was necessary for Apple to explain what served as the mandatory control point. Zhang does not mention a HomeRF control point. POSR, 7-10. Nor does it indicate that any of the hardware components it describes would function as a HomeRF control point (or have the capabilities that the HomeRF specification states that a control point must provide). *Id.* Nonetheless, Apple's Reply relied on a supplemental expert declaration asserting that Zhang's mobile phone was a HomeRF control point. EX1037, ¶¶12, 19; Reply, 21 (citing EX1037, ¶19).

Nowhere did Apple propose modifying Zhang, Fillebrown, or Pasanen to permit the combination to implement an isochronous HomeRF network for routing phone calls. In particular, Apple did not propose modifying Zhang to permit its mobile phone to function as a HomeRF control point. Apple's expressly stated position was that Zhang's *existing* mobile phone was a control point and therefore, according to Apple, provided the capability to receive a cellular call and route it over a HomeRF network to another device. Reply, 21-22 (citing EX1037, ¶19).

C. Apple's Expert Retracted His Testimony that Zhang's Mobile Phone was a Control Point

PO's Surreply detailed the problems with Apple's assertion that Zhang-Fillebrown-Pasanen disclosed all the hardware and software necessary to route a cellular call over a local network. POSR, 4-10. Apple's argument simply assumed that Zhang's existing hardware included *optional* HomeRF voice/DECT capabilities that were required only in an *isochronous* HomeRF network for transferring landline phone calls. Zhang did not describe routing landline phone calls. Zhang only used the term "HomeRF" once. Zhang did not mention an isochronous HomeRF implementation or the particular components and functionality required of such an implementation. Thus, Apple did not establish that Zhang's system included all the components and capabilities of a HomeRF isochronous network. POSR, 4-6. That is particularly true since an *asynchronous* HomeRF network (without the optional isochronous components) would have suited Zhang's purpose in transferring data. *Id.*, 5-6.

Beyond Zhang's silence, Apple's unsupported contention that Zhang's existing hardware provided an isochronous HomeRF network capable of routing interactive voice calls had a fatal flaw. Apple conceded that an isochronous HomeRF network **required** a control point, and it argued that Zhang's mobile phone operated as that control point. This argument is unsupported by Zhang. Apple did not contend that Zhang described its mobile phone as a HomeRF control

point. Nor did Apple contend that Zhang described its mobile phone as having the capabilities required of a HomeRF control point. Instead, Apple relied solely on a naked assertion by its expert. Reply, 21-22 (citing EX1037, ¶19).

Apple's contention that Zhang's mobile phone is a HomeRF control point made no sense. For starters, the HomeRF specification states that a control point for an isochronous network must provide connectivity to both a PSTN (a landline phone system) and a host PC. EX1038, 48. Zhang does not disclose that its mobile phone is connected to a PSTN or to a host PC. POSR, 8.

Next, according to Apple's own evidence, a HomeRF control point must be capable of assigning timeslots to other devices to provide them with guaranteed bandwidth for bounded latency communication in a TDMA scheme. EX1038, 55, 274-75; *see also* EX1039, 2-3 (a HomeRF control point "assigns [the isochronous clients] guaranteed bandwidth for bounded latency communication."). Zhang does not disclose that its mobile phone provided such capability. Nor was there any reason for it to do so. HomeRF's isochronous network was for routing landline calls to another device. Zhang does not disclose that its mobile phone could route even cellular calls to another device, much less landline calls. So there is no reason to assume that Zhang's mobile phone was a control point. POSR, 9.

Zhang's cell phone also fails to satisfy other requirements of a HomeRF control point. *Id.* For example, the HomeRF specification states that an "integrated

CP [i.e., one that is integrated into a PC] is still required to support mandatory CP procedures, *even when the PC appears to be switched off*. Refer to section 12.7.” EX1038, 59 (emphasis added). Those mandatory operations include, e.g., handling incoming and outgoing calls, power-management support, and connection point negotiation. *Id.*, 431-32. Zhang does not describe that its mobile phone possessed any such capability when powered on, much less when powered off. POSR, 9.

During the deposition of Petitioner’s expert, he testified that the assertion in his supplemental declaration that Zhang’s mobile phone was a control point for an isochronous HomeRF network was erroneous. EX2019, 33:20-22, 37:7-20. He stated that in the two places where he identified Zhang’s mobile phone as the control point, his supplemental declaration should have instead identified simply “HomeRF” as the control point. EX2019, 33:20-22, 37:7-20. But that “correction” is nonsensical—it makes no sense to say that the control point in a HomeRF network would be “HomeRF.” POSR, 10. The control point is a specific device that manages a HomeRF network. EX1039, 3.

Apple’s expert therefore abandoned his assertion that Zhang’s mobile device was the mandatory control point necessary for its proposed combination to work. Apple was left without any explanation as to how Zhang’s existing hardware could supposedly route cellular phone calls to another device. During oral argument, Apple’s counsel again conceded that the control point was a mandatory feature of a

HomeRF isochronous network for handling voice calls (which Apple claimed Zhang implemented). Paper 28, 22:24-5. In an effort to solve the conundrum created by its expert's retraction of his testimony, Apple's counsel argued for the first time at oral argument that its combination relied on Fillebrown as providing the HomeRF control point. Paper 28, 10:5-6, 22:25-23:1, 28:5-12.

As PO's counsel pointed out during oral argument, nowhere did Apple's Petition or Reply assert that its combination relied on Fillebrown to provide a control point for an isochronous HomeRF network. Paper 28, 34:3-35:1. Apple's Petition plainly stated over and over again that it relied on Fillebrown (only) for its wireless router. Petition, 16-23. Nowhere did the Petition indicate it relied on Fillebrown for a control point. Furthermore, Petitioner's discussion of HomeRF in its Reply included only a passing reference to Fillebrown—and that reference *reaffirmed* that the combination relied on Fillebrown for a router: “The combination relies prominently on *Zhang's* hardware and networking, pointing to *Fillebrown* as support for *Zhang's* network utilizing a central routing device.” Reply, 15 n.4. Likewise, Apple's supplemental expert declaration on this topic only mentioned Fillebrown as providing a “wireless router,” consistent with Apple's Petition. EX1037, ¶13. As discussed above, Apple's supplemental expert declaration asserted that Zhang's mobile phone (not Fillebrown's wireless router)

served as a HomeRF control point. EX1037, ¶¶12, 19.¹

In short, not only was Apple’s new assertion substantively baseless because it was unsupported by Fillebrown, it was also procedurally improper because it was newly presented at oral argument. *See DePuy Synthes Products, Inc. v. Medidea, L.L.C.*, IPR2018-00315, Paper 29 at 2 (PTAB Jan. 23, 2019) (Precedential) (“No new evidence or arguments may be presented at the oral argument.”) (quoting Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,768 (Aug. 14, 2012)).

D. The FWD Supplied a Rationale for Obviousness that Apple Did Not Present

The FWD addressed the issues raised above at pages 28-30, acknowledging the dispute and citing PO’s Surreply arguments regarding the flaws in Apple’s contention (including its expert’s retraction of key testimony). Paper 29 (FWD), 29. But rather than holding Apple to its burden to establish unpatentability, the Board resolved the shortfall in Apple’s evidence by concluding that a POSITA could have modified Zhang’s existing hardware to make whatever “adaptation” was needed to route a cellular call over an isochronous HomeRF network. *Id.*, 30.

In reaching its conclusion, the Board did *not* accept Apple’s contention that Zhang’s hardware provided the control point (and other capabilities) required to

¹ As PO’s counsel noted at the hearing, Fillebrown does not disclose that its router satisfies the requirements of a HomeRF control point. Paper 28, 34:7-10.

route a cell phone over an isochronous HomeRF network. The Board noted that “Zhang does not discuss transcoding or specific HomeRF features/protocols.” FWD, 29. The Board also did not accept Apple’s (untimely) contention at the oral argument that Fillebrown provided the control point. Instead, the Board bypassed those failed arguments by deciding that a POSITA would have been able to adapt *Zhang-Fillebrown’s* “existing hardware” by implementing additional functionality—specifically “transcoding or utilizing the optional HomeRF features”—to enable receiving a cellular call and routing it over the HomeRF network: “Naturally, some adaptation (e.g., transcoding or utilizing the optional HomeRF features) of Zhang-Fillebrown’s existing hardware might be required to receive a cellular call and route it over its network in view of Pasanen.” Paper 29 (FWD), 30.

The Board’s rationale was not Apple’s argued ground. Apple expressly and repeatedly argued that Zhang’s existing hardware and software provided everything necessary to transcode and route voice calls over HomeRF. *See* Reply, 19 (“Zhang’s hardware was indeed capable of transcoding this audio.”); Reply, 22 (“HomeRF-compatible devices, including Zhang’s mobile phone and audio helper device, would include all the hardware and software to facilitate rerouting a voice call over Zhang’s network.”). Apple nowhere argued that Zhang and/or Fillebrown would need to be modified to add optional HomeRF voice features or otherwise to

supply missing components or capabilities, including a control point specifically.

III. ARGUMENT

The Board changed the factual and technical predicate for unpatentability from what Apple argued—“the combination already has the capability”—to “the capability could be achieved by modification/adaptation.” The Board was not permitted to find the claims unpatentable based on a different obviousness rationale than the one Apple presented. The Federal Circuit has expressly rejected the proposition “that the Board is free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner during an IPR.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016). “[T]he Board must base its decision on arguments that were advanced by a party . . . [W]hile the PTO has broad authority to establish procedures for revisiting earlier-granted patents in IPRs, that authority is not so broad that it allows the PTO to raise, address, and decide unpatentability theories never presented by the petitioner and not supported by record evidence.” *Id.*; *see also Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed. Cir. 2023) (“We have likewise reprimanded the Board for finding a claim unpatentable based on theories not presented in the petition.”).

Compounding its error, the Board then criticized PO for failing to disprove the argument that Apple did not make:

Patent Owner has not pointed to any evidence showing that adding transcoding functionality would have required more than ordinary

skill. Although Patent Owner’s declarant, Mr. Ginter, characterizes a 2011 white paper as describing “the technical challenges involved in transcoding,” Mr. Ginter never opines that transcoding or the other modifications required to route a cellular call over Zhang-Fillebrown’s would have been outside the knowledge and ability of a POSITA.

Paper 29 (FWD), 30. “It is the petitioner that bears the burden of proof in IPRs.” *In re Magnum Oil Tools*, 829 F.3d at 1380 (citing 35 U.S.C. § 316(e)). Since Apple did not argue that it would have been obvious to modify Zhang to include, *inter alia*, a control point, PO was not required to address such a contention. *Id.* at 1378 (finding that the Board improperly shifted the burden to the patentee “to prove that the claimed invention would *not* have been obvious” by faulting the patentee for not rebutting an obviousness argument that the petitioner did not make).

Apple’s obviousness argument was untenable. This became apparent when Apple’s expert retracted key testimony and Apple responded in oral argument by presenting a new theory unsupported by the record. Instead of finding that Apple failed to carry its burden, the Board stepped into the role of advocate by supplying a new rationale that Apple did not present. That was error and an abuse of discretion. It should be reversed on Director review.

The Board sought to justify its decision by concluding that the necessary capabilities for routing cellular calls over a local network were well known at the

relevant time. It supported this conclusion by agreeing with Apple that the '648 patent “provides scant technical details as to how its system routes cellular calls over its local network.” FWD, 29. Even if this characterization of the '648 patent was true (which PO disputed²), it would not support the Board’s obviousness finding. The Board acknowledged that “Zhang does not discuss transcoding or specific HomeRF features/protocols,” which Apple’s argument relied upon. *Id.* Apple did not propose modifying Zhang (or the other cited references) to include those “transcoding or specific HomeRF features/protocols” because it contended they were already present in Zhang. Thus, whether techniques for routing cellular calls over a network were well known (and whether a POSITA could have modified Zhang to include them) is irrelevant. Apple did not make that argument, and the Board was not permitted to make the argument on Apple’s behalf.

IV. CONCLUSION

PO requests that the Director grant review and vacate and reverse the Board’s finding of unpatentability. Alternatively, PO requests that the Director remand for further proceedings consistent with the prohibition on sustaining unpatentability on grounds not advanced by the petitioner.

² As PO’s Surreply noted, the '648 patent describes the relevant functionality in more detail than Apple’s Petition. POSR, 2-3.

Dated: February 26, 2026

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(a) and (b), I certify that on the date indicated below, a true and accurate copy of the foregoing document was served on the following counsel for Petitioner via e-mail, pursuant to Petitioner's consent to e-mail service:

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