

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VIZIO, INC.,
Petitioner,

v.

MAXELL, LTD.,
Patent Owner.

IPR2022-01459
Patent 7,730,507 B2

Before KEVIN C. TROCK, JOHN A. HUDALLA, and
JASON W. MELVIN, *Administrative Patent Judges*.

Per curiam.

Opinion Concurring filed by MELVIN, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Vizio, Inc., (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1, 2, 8–10, and 13 of U.S. Patent No. 7,730,507 B2 (Ex. 1001, “the ’507 patent”). Maxell, Ltd., (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). Pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), we have authority to determine whether to institute review.

An *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). For the reasons set forth below, we conclude that Petitioner has shown a reasonable likelihood it will prevail in establishing the unpatentability of at least one challenged claim, and we institute *inter partes* review.

A. REAL PARTIES IN INTEREST

Petitioner identifies itself as the real party in interest. Pet. 1. Patent Owner also identifies itself as the real party in interest. Paper 3, 1 (Patent Owner’s Mandatory Notices).

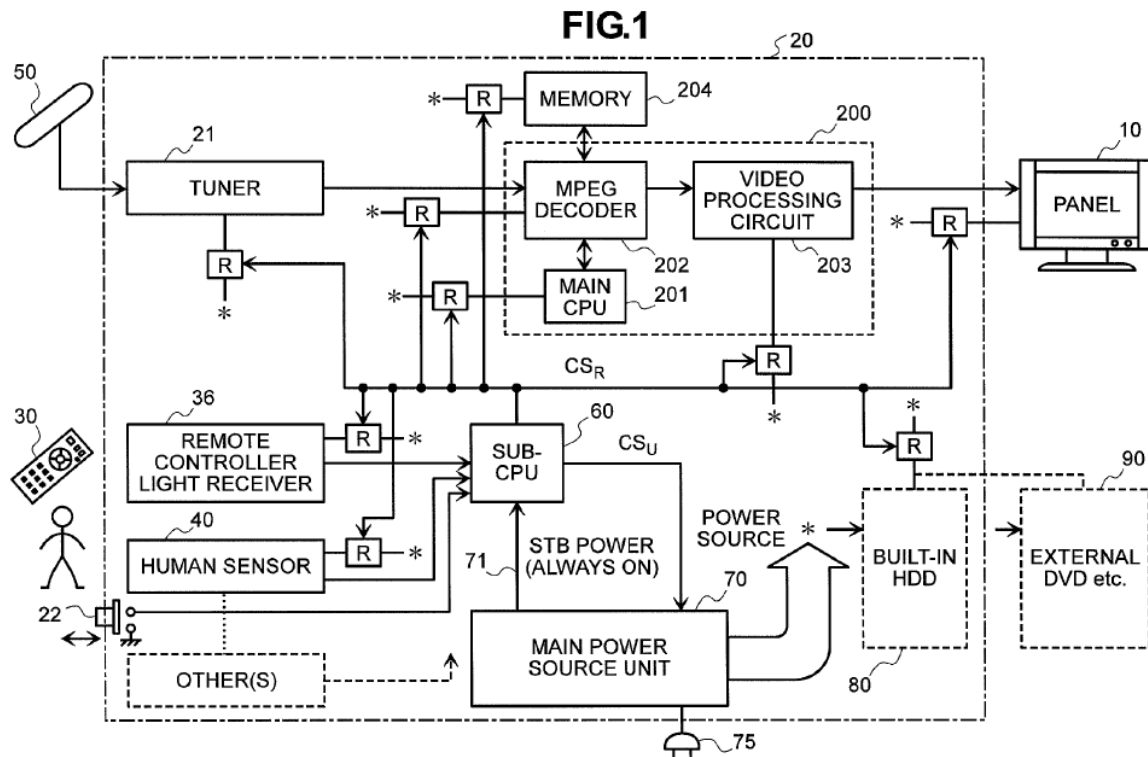
B. RELATED MATTERS

The parties identify the following related litigation: *Maxell, Ltd. v. Vizio, Inc.*, No. 2:21-cv-06758 (C.D. Cal.). Pet. 1; Paper 3, 1.

C. THE ’507 PATENT

The ’507 patent is titled “Broadcast Receiving Apparatus and Starting Method Thereof.” Ex. 1001, code (54). It issued from an application filed May 14, 2007. *Id.*, code (22).

The '507 patent relates to an apparatus and method for receiving a television broadcasting signal, in particular the method for starting such an apparatus. Ex. 1001, 1:7–14. To that end, the '507 patent describes “an electric power controller portion, which is configured to control condition of the electric power conditions of” other components. *Id.* at 2:41–44. The '507 patent's Figure 1 is reproduced below:



Id., Fig. 1. Figure 1 depicts the inner structures of receiving apparatus 20. *Id.* at 4:63–65. Digital tuner circuit 21 selects a desired one among broadcast signals received by external antenna 50 and provides the selected signal to video processing portion 200, which includes main CPU 201, MPEG decoder 202, and video processing circuit 203. *Id.* at 4:65–5:7. Sub-CPU 60, which consumes less electric power than main CPU 201, provides control signal CS_U to main power source 70, such that main power source 70

supplies various kinds of power-supply voltages to certain components. *Id.* at 6:4–26. Sub-CPU 60 additionally provides control signal CS_R to regulators that allow on/off control for additional components. *Id.* at 6:29–41.

The '507 patent describes a “first waiting condition,” in which “power is supplied to the sub-CPU 60, the remote controller light receiver portion 36, and the human sensor 40, so as to enable the operations thereof.” *Id.* at 7:28–41. It also describes a “second waiting condition,” in which power is additionally provided “to the main CPU 201 mentioned above, and further to the constituent parts necessitating a relatively long time for starting thereof, including the MPEG decoder 202 and the memory 204 thereof, for example.” *Id.* at 7:61–64. In that way, “startup is made in advance, by supplying the electric power, in particular, to the constituent parts needing a relatively long time for starting thereof, such as, the CPU and/or the digital LSI installing OS [operating system] therein, for example, under the second waiting condition.”¹ *Id.* at 8:33–37.

D. CHALLENGED CLAIMS

Challenged claim 1 is independent and is reproduced below:²

1. A broadcast program receiving apparatus to display a program broadcast via a digital broadcasting signal, comprising:
 - [1a] a first controller configured to control awaiting [condition] of the broadcast program receiving apparatus; and

¹ The '507 patent does not define “LSI” but refers to “one (1) chip LSI (i.e., the video processing portion 200).” Ex. 1001, 5:45–46.

² We include bracketed limitation designations, consistent with Petitioner. Ex. 1004.

- [1b] a second controller configured to be started up by a predetermined OS to control a processing of a received digital broadcasting signal via a decoder;
- [1c] a display portion, which is configured to display an image using a signal processed by the second controller;
- [1d] an electric power source unit which is configured to supply predetermined electric power;
- [1e] a remote control signal receiving portion, which is configured to receive a remote control signal for operating the display portion; and
- [1f] where the first controller being smaller in consumption of electric power than the second controller, and configured to control the electric power supplied from the electric power source unit, responsive to the remote control signal received by the remote control signal receiving portion,
- [1g] wherein the waiting condition in which an image is not displayed after stopping a supply of the electric power to the display portion, is controlled by the first controller, so as to be placeable into either of a first waiting condition or a second waiting condition,
- [1h] the first controller is controlled to be set in operation via supply of the electric power from the electronic power source unit thereto, under the first or second waiting condition,
- [1i] the electric power supplied from the power source unit is controlled, so as to supply the electric power to the remote control signal receiving portion, as well as, not to supply the electric power to the second controller including the decoder, under the first waiting condition, and
- [1j] the electric power supplied from the power source unit is controlled so as to supply the electric power to the remote control signal receiving portion and the second controller including the decoder, under the second waiting condition.

Id. at 11:63–12:36. Claim 2 is independent and recites similar limitations. *Id.* at 12:37–13:10. Claims 8–10 and 13 depend from claim 2, directly or indirectly, from claim 2. *Id.* at 13:35–58, 14:9–15.

E. PRIOR ART AND ASSERTED GROUNDS

Petitioner asserts the following ground of unpatentability:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 2, 10, 13	103	Tichelaar ³
1, 2, 8–10, 13	103	Tichelaar, Relan ⁴
1, 2, 10, 13	103	Tichelaar, Kim’616 ⁵
1, 2, 8–10, 13	103	Tichelaar, Relan, Kim’616
1, 2, 13	103	Kitamura ⁶ , Kim’616
10	103	Kitamura, Kim’616, Tichelaar

Pet. 4. Petitioner also relies on the Declaration of Dr. Andrew Wolfe.
Ex. 1003.

II. ANALYSIS

A. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner asserts that ordinarily skilled artisans “would have held a bachelor’s degree in computer science, electrical engineering, or a closely related field, and at least two years of experience in designing systems for broadcast receiving apparatuses.” Pet. 11 (citing Ex. 1003 ¶¶ 44–50). Patent

³ US Pat. Pub. No. 2005/0094036 (Ex. 1008).

⁴ US Pat. Pub. No. 2005/0229226 (Ex. 1010).

⁵ US Pat. Pub. No. 2002/0024616 (Ex. 1011).

⁶ US Pat. Pub. No. 2007/0046833 (Ex. 1012).

Owner does not dispute that definition. *See generally* Prelim. Resp. We adopt Petitioner’s definition as supported by expert testimony.

B. CLAIM CONSTRUCTION

Petitioner submits that certain claim terms should be construed as means-plus-function recitations under 35 U.S.C. § 112 ¶ 6, and that all other terms should be applied without construction using their plain and ordinary meaning. Pet. 13–17. According to Petitioner, “a first controller,” “main control circuit,” “a second controller,” and “a sub-control circuit” all use means-plus-function form. *Id.*

Patent Owner contends that no term requires express construction, and points out that the district court held the same in the parallel litigation. Prelim. Resp. 9–10 (citing Ex. 2001).

At this juncture, we determine that the best course is to follow the district court, and apply the claim terms without express construction. No dispute turns on whether we adopt Petitioner’s asserted constructions at this stage. *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms that . . . are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). To the extent that the scope of a particular claim term impacts a party’s argument during trial, the party should propose an express construction and show how the record supports it.

C. OBVIOUSNESS OVER TICHELAAR

Tichelaar is a U.S. patent application titled “Power Standby Mode Circuitry for Audiovisual Device.” Ex. 1008, code (54). Tichelaar was

published May 5, 2005. *Id.*, code (43). Tichelaar addresses TV power consumption “by fully delegating standby tasks to a low power delegate controller (90) with minimal local resources.” *Id.*, code (57). Tichelaar describes that, when “delegating low power standby tasks from a main micro-controller (μ C) to a separate module,” the module “does at least the remote control command decoder task.” *Id.* ¶ 35. “The delegate controller communicates with the main μ C and its infrastructure via preferably a very thin standard interface in order to keep the parallel execution of the remote control command decoder task simple and (ultra) low power.” *Id.* In Tichelaar’s “low power standby mode,” [t]he clock is removed from the main μ C and other modules except the capture timer and power management unit of the delegate μ C.” *Id.* ¶ 36. The delegate controller determines whether “the TV should be powered up from low-power standby mode.” *Id.* “The delegate controller can control via a power regulator or (e.g. internal or external DC-DC converter) the power supply voltage to part(s) or the whole SoC.”⁷ *Id.* ¶ 43.

Tichelaar implements a system with four power modes: “Off, Low-power standby (or standby passive), Active standby, Running (system operational).” *Id.* ¶ 45. “Active standby mode is considerably less low power than low-power TV standby.” *Id.* ¶ 47.

Patent Owner challenges Petitioner’s contentions for claims 1 and 2 collectively. Prelim. Resp. 17–26.

⁷ “SoC” refers to “systems-on-chip.” Ex. 1007 ¶ 2. Tichelaar discloses alternatively implementing its delegate controller as an external die within the same package as the overall processor. *Id.* ¶ 44.

1. “configured to be started up by a predetermined OS” [1b]/[2f]

Petitioner relies on Tichelaar’s main microcontroller, which performs “loads and stores of code and data” as well as “software downloads.” Pet. 30 (quoting Ex. 1008 ¶¶ 12, 47). Petitioner notes that Tichelaar references a “Television Control Processor,” which includes features “required for certain operating systems.” Pet. 30 (quoting Ex. 1008 ¶¶ 4, 12; Ex. 1016, 354; Ex. 1003 ¶¶ 122, 125–132). Petitioner asserts that Tichelaar’s references to its microcontroller’s capabilities like software downloads “implicat[e] OS capabilities.” *Id.* (citing Ex. 1003 ¶¶ 122, 125–132).

Patent Owner contends that “[a] chip or a processor can download code or software in a memory without an OS.” Prelim. Resp. 19. Patent Owner provides no support for its contention, whereas Petitioner supports its position with expert testimony. Further, we agree with Petitioner that software-download functionality supports that Tichelaar’s processor is started up by a predetermined operating system based on our understanding that an operating system allows a system to load and execute software. Stated otherwise, functionality to download software is the type of task an operating system would be expected to handle. Ex. 1003 ¶ 131. Patent Owner’s contention identifies a factual issue that the parties may resolve through trial.

2. “smaller in consumption of electric power than the second controller, and configured to control the electric power supplied from the electric power source unit” [1f]/[2g]

Petitioner relies on Tichelaar’s delegate micro-controller 90 as the recited “first controller.” Pet. 25–27. As to that delegate microcontroller consuming less power than the claimed second controller, Petitioner relies

on Tichelaar describing it as “low speed, (ultra) low-power and small” with a “minimal set of local resources” and a “thin (light weight) interface towards the main [micro-controller 88].” Ex. 1008 ¶ 35; Ex. 1003 ¶¶ 145–148; Pet. 33. Tichelaar also states the delegate micro-controller is “powered by preferably a reduced power supply voltage” in light of the “rather low speed signal processing and control [that] is required.” Ex. 1008 ¶¶ 40, 21–22, 28, 35, 37, 44, 53, 59, 62; Ex. 1003 ¶¶ 145–148.

Patent Owner contends that “Petitioner fails to show if Tichelaar discloses that the delegate micro controller 90 consumes less power than the main controller 88.” Prelim. Resp. 20 (citing Ex. 1008 ¶ 22 (“The delegate micro-controller is included on the same integrated circuit (IC) package as the main micro controller, preferably on the same IC die.”)). We conclude that Petitioner’s showing supports institution because it reasonably leads to a finding that Tichelaar’s delegate controller consumes less power than its main controller.

As to “configured to control the electric power supplied from the electric power source unit,” Petitioner relies on Tichelaar’s disclosure that the delegate microcontroller “signal[s]” SMPS 70 to control “supply voltages to parts for the whole system-on-chip, including main controller and resources” Pet. 34 (citing Ex. 1008, claim 1, ¶¶ 43, 52, 58–59, 61–63).

Patent Owner contends also that “instead of the first controller configured to control the power supplied, Tichelaar’s ‘power management unit’ controls and wakes up the delegate microcontroller on an external trigger.” Prelim. Resp. 21 (citing Ex. 1008 ¶¶ 35, 36). That, however, does not address Petitioner’s contention that the delegate microcontroller then controls the power supplied to the main controller. Patent Owner has not

explained how a process for waking the delegate microcontroller has any bearing on the claim language.

Accordingly, Petitioner's contentions support institution.

3. "waiting condition . . . is controlled by the first controller" [1g]/[2h]

"Tichelaar discloses that its 'standby' mode ('waiting condition') may be placed into a 'low-power standby' or an 'active standby' ('placeable into either of a first waiting condition or a second waiting condition')." Pet. 36 (citing Ex. 1003 ¶¶ 154–66; Ex. 1008 ¶ 45). As to the element that controls Tichelaar's waiting condition, Petitioner relies on the delegate microcontroller. Pet. 37. Tichelaar discloses the DμC "has a standby mode on/off line 93 (burst mode control) to the SMPS 70" and can "signal low-power standby mode (or burst mode on/off) to the SMPS 70." Ex. 1008 ¶¶ 50, 57, 60; Pet. 37 (citing Ex. 1003 ¶¶ 154–156).

Patent Owner appears to dispute whether Tichelaar discloses that its delegate microcontroller is the element that acts to place its system in low-power standby or active standby. Prelim. Resp. 22–23. Petitioner's contentions rely on the delegate microcontroller itself acting to control standby modes. In particular, Petitioner points to Tichelaar's statements that "DμC has a standby mode on/off line 93 (burst mode control) to the SMPS 70" and can "signal low power standby mode (or burst mode on/off) to the SMPS 70." Pet. 37 (quoting Ex. 1008 ¶¶ 50, 57, 60). Tichelaar's express disclosures support Petitioner's contentions as to which element performs the claimed function. Accordingly, on the present record, Petitioner's contentions support institution.

4. “electric power . . . is controlled . . . so as to supply the electric power to the remote control signal receiving portion” [1i]/[2j]

Petitioner maps the “remote control signal receiving portion” to Tichelaar’s “infrared remote control receiver front-end.” Pet. 32–33 (quoting Ex. 1008 ¶ 59, 8, 9. According to Petitioner, “in both ‘low-power’ and ‘active standby,’ power is supplied to the ‘infrared remote control receiver front-end 42,’” satisfying the requirement that electrical power is controlled to the remote control signal receiving portion. *Id.* at 42–43 (citing Ex. 1008 ¶¶ 36, 59).

Patent Owner contends that “Tichelaar discloses that instead of the first controller configured to control the power supplied, Tichelaar’s ‘power management unit’ controls and wakes up the delegate micro controller on an external trigger.” Prelim. Resp. 24 (quoting Ex. 1008 ¶¶ 35, 36). Patent Owner does not address, however, that Tichelaar discloses the “power management unit” is part of the delegate microcontroller. Ex. 1008 ¶ 35 (“The delegate μ C can have its own local power management control . . .”), 36 (“The [capture timer] sends an interrupt to the delegate controller and its power management unit.”); *accord id.* ¶ 43 (“The delegate controller can control via a power regulator or (e.g. internal or external DC-DC converter) the power supply voltage to part(s) or the whole SoC . . .”).

Patent Owner argues next that, in Tichelaar, “the ‘infrared receiver 42’ is always on and its electric power supply is not controlled by the delegate micro controller.” Prelim. Resp. 24. Tichelaar, however, discloses that the delegate microcontroller “optionally controls low power modes of this [infrared remote control receiver] front-end.” Ex. 1008 ¶ 59. That disclosure adequately supports Petitioner’s contention that Tichelaar satisfies the claim language.

5. “power . . . is controlled so as to supply the electric power to the remote control signal receiving portion and the second controller including the decoder, under the second waiting condition” [1j]/[2k]

Petitioner reasons that, in Tichelaar’s “active standby” mode, power is provided to the “infrared remote control receiver front-end 144” because the TV is responsive to a remote-control command. Pet. 43–44 (citing Ex. 1008, Abstr., ¶¶ 36, 59; Ex. 1003 ¶¶ 184–189). Petitioner further reasons that power is also supplied to the “main micro controller 88” and decoder functionality because that main microcontroller performs “additional tasks” such as “software downloads,” “MPEG transport stream (TS) monitoring,” “demultiplexing,” and “descrambling.” *Id.* (citing Ex. 1008 ¶¶ 5, 12, 45, 47, 49, 54, 63; Ex. 1003 ¶ 188).

Patent Owner contends that Tichelaar “does not disclose that electric power is supplied to the ‘infrared receiver 42’ and the ‘main TV micro-controller 88’ in either standby mode[.]” Prelim. Resp. 25. Patent Owner cites Petitioner’s additional contentions regarding the knowledge of skilled artisans to argue that Tichelaar does not disclose the limitation. *Id.* (citing Pet. 58)). But Patent Owner does not address Petitioner’s contentions based on Tichelaar’s express disclosures. *See* Pet. 44. Those disclosures appear to logically support Petitioner’s contentions, in that Tichelaar’s active standby includes “MPEG transport stream (TS) monitoring for specific data or programs” (Ex. 1008 ¶ 47), which requires that power be provided to the main microcontroller and decoder, because the delegate microcontroller is used only “to deal with low-power standby tasks” (*id.* ¶ 50). We conclude that Petitioner’s contentions support institution.

6. Additional claims

For claims 8, 9, 10, and 13, which depend from claim 2, Patent Owner relies on the arguments made above to challenge institution. Prelim. Resp. 26. As discussed, those arguments do not undermine Petitioner’s showing at this stage. We have reviewed Petitioner’s contentions and conclude they support institution. *See* Pet. 48–54.

D. OBVIOUSNESS OVER TICHELAAR AND RELAN

Petitioner relies on Relan as more fully teaching an “active standby” mode in which power is not supplied to the screen, but is supplied to the remote receiver, main microcontroller, and decoder. Pet. 60–63. Petitioner reasons that skilled artisans had reason to modify Tichelaar to provide that type of active standby, because it would “conserve power in ‘active standby’ while providing enhanced non-display functionality” and would have “allowed for a better user experience and utilized less power (thus lowering cost of use).” *Id.* at 61 (citing Ex. 1003 ¶¶ 255–259, 63–87). Petitioner relies on Relan’s disclosures that a user may want to record programs without watching them (Ex. 1010 ¶ 103–105, 258) and that “the display/broadcast functions . . . may consume more power than other electronic device functions” (*id.* ¶¶ 14–15, 246, 275). *See* Pet. 18 (citing Ex. 1010 ¶¶ 73, 108).

Patent Owner asserts that Relan’s “power control processor 566A” does not control power supplied to the remote control signal receiving portion. Prelim. Resp. 26. But Petitioner does not appear to rely on Relan in that regard. Rather, Petitioner relies on Relan as teaching standby conditions in which certain components are powered, and asserts those conditions would be implemented in Tichelaar’s hardware. Pet. 61, 63–65.

Patent Owner challenges whether Relan discloses that electric power is supplied to Relan's processor 561A, power control processor 566A, and remote control signal receiver in standby and hibernate modes. Prelim. Resp. 27. As discussed above, however, Petitioner explains how Relan's disclosures support that it teaches supplying power to its remote control receiver when in standby or hibernate modes, and supplying power to a main processor and decoder in standby mode but not hibernate mode. Pet. 61; *see* Ex. 1010 ¶¶ 246 (“[I]n the STAND-BY state/mode, all functions related to the electronic device may be accessible, except for the display/broadcast functions”), 247 (“[I]n the HIBERNATE state/mode the display device/entity and the decoding device/entity may both be switched off.”). We conclude Petitioner's showing supports institution.

We have reviewed Petitioner's contentions regarding Relan and conclude they support institution. *See* Pet. 22–24, 38–41, 44–46, 48–50, 60–65.

E. OBVIOUSNESS OVER TICHELAAR AND KIM '616

Petitioner asserts that Kim '616 discloses an OS-based main processor and that skilled artisans had reason “use an OS-based main processor, such as disclosed by Kim '616, in Tichelaar's ‘audiovisual device.’” Pet. 67. Petitioner relies on Tichelaar's disclosure that its “‘main microcontroller 88’ loads and stores ‘code and data’ and specifically references ‘software downloads’” as teaching or suggesting an OS-based microcontroller. Pet. 55. Petitioner relies additionally on other references, such as Vaughan,⁸ disclosing that “OS-based systems provided several

⁸ US Pat. 6,209,044 B1 (Ex. 1020).

benefits over traditional televisions, such as the ability to display ‘TV programs and computer applications,’ ‘utilize[e] the communications bandwidth, mass storage and graphics application of the computer to deliver, store and display applications within a television viewing environment,’ and ‘download information.’” *Id.* at (quoting Ex. 1020, 1:17–46); *accord id.* (citing Ex. 1011 ¶ 5; Ex. 1006 ¶ 4–5; Ex. 1023, 2:46–56, 3:18–39).

Patent Owner argues that Kim ’616 does not “disclose the claimed ‘a second controller configured to be started up by a predetermined OS to control a processing of a received digital broadcasting signal via a decoder.’” Prelim. Resp. 28–29. Patent Owner relies on the assertion that “Kim ’616’s OS executes after and/or separately from the MPEG decoding.” *Id.* In that regard, Patent Owner points to Kim ’616’s disclosure that its “computer-based television” includes a distinct “television card 170,” which includes “video decoder 174.” Ex. 1011 ¶¶ 29, 32–33.

We do not agree with Patent Owner’s argument. The claim language does not require the decoder to be part of the second controller, only that the second controller is “configured to . . . control a processing of a received digital broadcasting signal via a decoder.” *E.g.*, Ex. 1001, 12:1–3 (claim 1). Patent Owner’s argument would depend on adopting a claim construction that Patent Owner has not proposed or supported. We have reviewed Petitioner’s contentions based on Tichelaar and Kim ’616 and determine they support institution.

F. OBVIOUSNESS OVER TICHELAAR, RELAN, AND KIM ’616

Petitioner applies Kim ’616’s teachings to the Tichelaar–Relan combination in the same manner as it does for Tichelaar alone. Pet. 66. Patent Owner contests the Tichelaar, Relan, and Kim ’616 combination

based on the same arguments addressed above. Prelim. Resp. 29 (asserting reasons against institution raised against Tichelaar (Ground 1), Tichelaar and Relan (Ground 2), and Tichelaar and Kim '616 (Ground 3)). For the reasons discussed, on the present record, Petitioner's contentions support institution.

G. OBVIOUSNESS OVER KITAMURA AND KIM '616

Petitioner relies on Kitamura as disclosing the limitations of claims 1 and 2, submitting that skilled artisans would have had reason to use Kim '616's OS-based CPU for the same reasons discussed above regarding Kim '616's combination with Tichelaar. *See supra* at 15 (§ II.E).

Patent Owner contends that Kitamura does not disclose a controller configured to be started up by a predetermined OS, because "Kitamura's 'CPU 111' only uses programs and data stored in the memory." Prelim. Resp. 30. Petitioner relies on Kitamura's disclosure that "a startup from the above-mentioned full standby or the partial standby requires restarting in view of software." Ex. 1012 ¶ 8. Petitioner relies also on Kitamura's disclosure that "[a] CPU 111 controls entirely using the programs and data stored in a memory 112." *Id.* ¶ 28. Those disclosures support that Kitamura's CPU controls software execution and data access, and as such, appear to satisfy the claimed "controller configured to be started up by a predetermined OS." During the trial, Patent Owner may seek a limiting construction for the claim language and support any such construction with record evidence.

Patent Owner challenges also whether Kitamura's "sub-CPU 114," which Petitioner maps to the claimed "first controller," consumes less electric power than Kitamura's "CPU 111," which Petitioner maps to the claimed "second controller." Prelim. Resp. 31–32. Petitioner relies on

Kitamura's disclosures that its sub-CPU "is tasked with performing fewer functions than a 'main' CPU and is provided with fewer resources." Pet. 80 (citing Ex. 1003 ¶¶ 301–307). As explained by Petitioner's expert, Kitamura's sub-CPU "analyzes the remote control signals for controlling a power supply circuit 115 and for communication with a CPU 111" while the main CPU "controls entirely." Ex. 1012 ¶¶ 28–29; Ex. 1003 ¶ 302–303. Petitioner relies additionally on an additional reference, Mitarai⁹, as disclosing "a sub-CPU having power consumption lower than that of the main CPU." Pet. 80 (quoting Ex. 1021, code (57)). As such, Petitioner asserts Mitarai as evidence regarding how skilled artisans at the time would have understood the term "sub-CPU." Petitioner's contentions adequately support institution because they support a conclusion that Kitamura's sub-CPU consumes less electric power than its main CPU. The ultimate resolution of this issue may depend on facts developed through trial.

Claims 1 and 2 require that the waiting condition be "controlled by the first controller." Petitioner asserts that Kitamura discloses three standby power modes effected by "power supply circuit 115" under the control of "sub-CPU 114." Pet. 82 (citing Ex. 1012 ¶¶ 30–31). Patent Owner challenges whether Kitamura discloses that its sub-CPU controls Kitamura's standby power modes, in particular questioning "which component in Kitamura runs the algorithm" depicted in Kitamura's Figure 3. Prelim. Resp. 33. But Petitioner does not appear to rely on that algorithm. *See* Pet. 79–88. Petitioner's contentions address the claim language, in that Kitamura's sub-CPU 114 controls power supply circuit 115, which Kitamura

⁹ US Pat. No. 7,725,749 B2 (Ex. 1021).

discloses as allowing its three standby levels. Ex. 1012 ¶¶ 29–31. Those disclosures support a conclusion that Kitamura discloses the claimed elements.

As to the claimed waiting conditions, Petitioner maps the “first waiting condition” to Kitamura’s “full standby” (Pet. 85–87) and the “second waiting condition” to Kitamura’s “false standby” (*id.* at 87–88). Patent Owner asserts that, in Kitamura’s “partial standby,” “electric power is not supplied to the hardware enclosed with dashed lines 117, which includes the MPEG decoder 104.” Prelim. Resp. 35. But Petitioner does not rely on Kitamura’s “partial standby” mode for the claimed second waiting condition, it relies on Kitamura’s “false standby” mode. Pet. 87–88. Thus, Patent Owner’s argument is inapposite. We conclude that Petitioner’s contentions show Kitamura discloses the claimed waiting conditions.

We have reviewed Petitioner’s contentions regarding Kitamura and Kim ’616 and conclude they support institution. *See* Pet. 68–90.

H. OBVIOUSNESS OVER KITAMURA, KIM ’616, AND TICHELAAR

For claim 10, Petitioner submits that skilled artisans had reason to use Tichelaar’s “standby LED” with Kitamura’s system. Pet. 90–91. According to Petitioner, the modification would have involved applying a known technique (Tichelaar’s standby LED) to a known device (Kitamura’s television receiver) to yield predictable results (a television with a standby LED indicator). *Id.* at 90.

Patent Owner challenges Petitioner’s contentions only as discussed above regarding other grounds. Prelim. Resp. 37. We have reviewed Petitioner’s contentions regarding Kitamura, Kim ’616, and Tichelaar, and conclude they support institution. *See* Pet. 90–91.

I. DISCRETIONARY DENIAL UNDER § 314(a)

Patent Owner argues we should exercise our discretion to decline institution under § 314(a) according to the framework in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB March 20, 2020) (precedential). Prelim. Resp. 12–16. We do not agree.

Fintiv instructs us to consider whether to deny institution in certain circumstances when there is parallel district court litigation, upon consideration of six factors:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Fintiv, Paper 11 at 6. Our analysis of *Fintiv* is guided by the USPTO Director’s Memorandum issued on June 21, 2022, titled “Interim Procedure for Discretionary Denials in AIA Post Grant Proceedings with Parallel District Court Litigation” (“Director’s Memo”).¹⁰

¹⁰ Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf

As to the first factor, we have no indication the litigation is or will be stayed pending an *inter partes* review, and we decline to speculate as to the possibility of a stay. That factor is neutral as to discretionary denial.

As to the second factor, Patent Owner asserts that the litigation will be completed three months before a final written decision in this proceeding. Prelim. Resp. 13 (citing Ex. 2002, which indicates a January 23, 2024, trial). But Patent Owner admits that cases in the Central District of California take, on average, fifteen months from a *Markman* order to trial. *Id.* at 14; *See* Ex. 1028. According to Patent Owner, that timing means we should expect a trial to occur by about “February/March 2024.” Prelim. Resp. 14. The district court issued a claim-construction order on December 21, 2022. Ex. 2001. Using the district court’s average time to trial statistics provides a trial date around the end of March 2024. Considering the presently scheduled trial date of January 23, 2024, and the projected trial date of March 2024, we find that this factor weighs marginally in favor of discretionary denial.

As to the third factor, the litigation has involved some discovery and the court has issued a claim-construction order (Ex. 2001). The district court and the parties have not substantively addressed invalidity. *See* Ex. 2002 (setting a June 20, 2023, date for exchanging expert reports). Thus, we conclude that the parties’ and court’s investment in the litigation weighs only marginally, if at all, in favor of discretionary denial. *See Sand Revolution II LLC v. Continental Intermodel Group – Trucking LLC*, IPR2019-01393, Paper 24, 10–11 (informative).

As to the fourth factor, Petitioner points out that claims 8 and 10, challenged here, have not been asserted in the litigation. Pet. 92. Patent

Owner points out that Petitioner has asserted the same prior art in litigation as asserted here. Prelim. Resp. 15. We note that Petitioner has not provided a stipulation that would avoid any overlap with the district court. *See* Director’s Memo 7–8. We conclude that the additional claims at issue here does not overcome the fact that the same art is asserted. Thus, the overlap supports discretionary denial.

Because Petitioner is the litigation defendant, factor 5 weighs in favor of discretionary denial.

Considering factors one through five together arguably supports discretionary denial. We therefore consider whether the Petition presents a compelling unpatentability challenge. Director’s Memo 4–5. That is, we consider whether the “evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” *Id.* at 4. The “compelling merits” standard is a standard higher than that required for institution. *CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23, 3 (Feb. 27, 2023) (precedential).

We have discussed the challenges and Patent Owner’s arguments against them above. The asserted references and combination appear to teach the limitations of each challenged claim, based on the references’ plain disclosures. Nearly all of Patent Owner’s arguments at this stage rely on unsupported, implicit claim constructions or assertions contrary to the references’ plain disclosures.

Patent Owner does not present expert testimony at this stage supporting its positions on either the references’ disclosures or claim interpretation. For example, Patent Owner’s argument regarding whether Tichelaar’s asserted second controller is “started up by a predetermined OS”

challenges Petitioner’s characterization but provides no evidence to rebut Petitioner’s showing. *Compare* Pet. 29–30 (citing Ex. 1003 ¶¶ 122, 125–132; Ex. 1008 ¶¶ 4, 12, 47; Ex. 1016, 354; Ex. 1020, 1:17–46), *with* Prelim. Resp. 18–19 (“A chip or a processor can download code or software in a memory without an OS.”). And Petitioner presents convincing evidence supporting that skilled artisans would have found it obvious to modify Tichelaar to implement its “main TV micro-controller 88” as an OS-based microcontroller. Pet. 54–56 (citing Ex. 1003 ¶¶ 64–73, 229–234; Ex. 1006 ¶¶ 4–5; Ex. 1008 ¶¶ 4, 12, 47; Ex. 1011 ¶¶ 5, 9, 11, 13, 32, 33, 40–42; Ex. 1016, 354; Ex. 1020, 1:17–46; Ex. 1023, 2:46–56, 3:18–39). Patent Owner does not directly address those contentions. Nor does Patent Owner support a construction that would exclude Tichelaar’s disclosed system. *See* Prelim. Resp. 18–19. The present record could not support a conclusion that Petitioner fails to show the “predetermined OS” limitation.

Regarding whether the first controller consumes less electric power than the second controller, Patent Owner similarly relies on asserting a failure of proof rather than providing any evidence that could rebut Petitioner’s showing. Prelim. Resp. 20. Patent Owner points out that the two controllers are “preferably on the same IC die” but provides no evidence that would undermine Petitioner’s support. *Id.* On the other hand, Petitioner cites to Tichelaar’s disclosures supporting that its delegate microcontroller is “low speed, (ultra) low-power and small” and has a “minimal set of local resources” and a “thin (light weight) interface towards the main” controller. Pet. 33 (quoting Ex. 1008 ¶ 35); *accord id.* at 33–34 (citing Ex. 1008 ¶¶ 20–21, 28, 35, 37, 40 (“The delegate μ C module is powered by preferably a reduced power supply voltage” due to the “rather low speed signal

processing and control [that] is required.”), 44, 53, 59, 62). And Petitioner supports its argument with declarant testimony. *Id.* at 33–34 (citing Ex. 1003 ¶¶ 145–148). Thus, the present record supports a conclusion only that the prior art discloses this limitation.

Patent Owner’s other arguments fare no better. Each of those arguments relies on assertions without evidentiary or testimonial support, challenging Petitioner’s assertions based on both evidentiary and testimonial support. *See* Prelim. Resp. 22–25. And Patent Owner presents no arguments for limiting claim scope through construction. *Id.* at 9–10.

Additionally, most challenged claims fall within multiple grounds, including two different primary references, Tichelaar and Kitamura. Both of those primary references appear to plainly teach the limitations of the challenged claims as mapped by Petitioner.

Considering the strength and nature of Patent Owner’s arguments, as opposed to Petitioner’s well-supported contentions, we conclude that the Petition presents compelling merits.

We decline to exercise our discretion as Patent Owner seeks.

III. CONCLUSION

For the reasons discussed above, we conclude Petitioner has shown a reasonable likelihood of prevailing with respect to at least one claim. We have evaluated all of the parties’ submissions and determine that the record supports institution.

Our determination at this stage of the proceeding is based on the evidentiary record currently before us. This decision to institute trial is not a final decision as to patentability of any claim for which *inter partes* review

has been instituted. Our final decision will be based on the full record developed during trial.

IV. ORDER

Accordingly, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review of claims 1, 2, 8–10, and 13 of the '507 patent is instituted on the grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this decision.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VIZIO, INC.,
Petitioner,

v.

MAXELL, LTD.,
Patent Owner.

IPR2022-01459
Patent 7,730,507 B2

Before KEVIN C. TROCK, JOHN A. HUDALLA, and
JASON W. MELVIN, *Administrative Patent Judges*.

MELVIN, *Administrative Patent Judge, concurring*.

I concur with the conclusion that we should not deny institution under *Fintiv*. I would, however, reach that conclusion through a different path. As to factor 2 (the district court's schedule), I view the record as showing the expected trial is "around the same time" as our April 2024 statutory deadline, supporting no discretionary denial. *See* Director's Memo 9 ("The PTAB will weigh this factor against exercising discretion to deny institution under *Fintiv* if the median time-to-trial is around the same time or after the projected statutory deadline for the PTAB's final written decision."). Further, I view factors one through five together as weighing against discretionary denial, largely because of the expected trial date. I therefore do not believe

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we should address the Petition's compelling merits. In all other regards, I agree with my colleagues.

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