

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD,
Petitioner,

v.

MOJO MOBILITY INC.,
Patent Owner.

IPR2023-01086
Patent 7,948,208 B2

Before WILLIAM V. SAINDON, MICHAEL J. FITZPATRICK, and
KARA L. SZPONDOWSKI, *Administrative Patent Judges*.

SZPONDOWSKI, *Administrative Patent Judge*.

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

I. INTRODUCTION

Samsung Electronics Co., Ltd. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 1 and 18 of U.S. Patent 7,948,208 B2, issued on May 24, 2011 (Ex. 1001, “the ’208 patent”). Mojo Mobility Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). With our authorization, Petitioner filed a Preliminary Reply (Paper 7, “Reply”), and Patent Owner filed a Preliminary Sur-reply (Paper 9, “Sur-reply”).

Institution of an *inter partes* review is authorized when “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). Based on the current record, and for the reasons explained below, we determine that Petitioner has not established a reasonable likelihood that it would prevail with respect to at least one challenged claim, and we do not institute an *inter partes* review.

II. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. as the real party-in-interest. Pet. 1. Patent Owner identifies itself as the real party-in-interest. Paper 3, 2 (Mandatory Notices of Patent Owner).

B. Related Matters

The parties identify *Mojo Mobility Inc. v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.*, Case No. 2:22-cv-00398 (E.D. Tex.) as a related case (“district court litigation”). Pet. 1; Paper 3, 2.¹

C. The ’208 Patent (Ex. 1001)

The ’208 patent is titled “Power Source, Charging System, and Inductive Receiver for Mobile Devices” and discloses various embodiments of a system for powering or charging of devices. Ex. 1001, code (54). Generally, a primary device (i.e., a pad or other base unit) creates a magnetic field by applying an alternating current to a coil, a receiver receives the energy from the alternating magnetic field, and transfers it to a second device (i.e., a mobile device). *Id.* at 3:20–27. The receiver may also include electronic components or logic used to set the voltage and current to the appropriate levels, or to communicate information to the primary device. *Id.* at 3:27–36. “The system may also incorporate efficiency measures that improve the efficiency of power transfer between the charger and receiver.” *Id.* at 3:30–32.

Figure 2, reproduced below, shows “main components of a typical inductive power transfer system 110.” *Id.* at 8:10–11.

¹ Patent Owner identifies Case No. 1:22-cv-00433-JRJ (E.D. Tex.), which appears to be the original case number, before the case was transferred. Paper 3, 2.

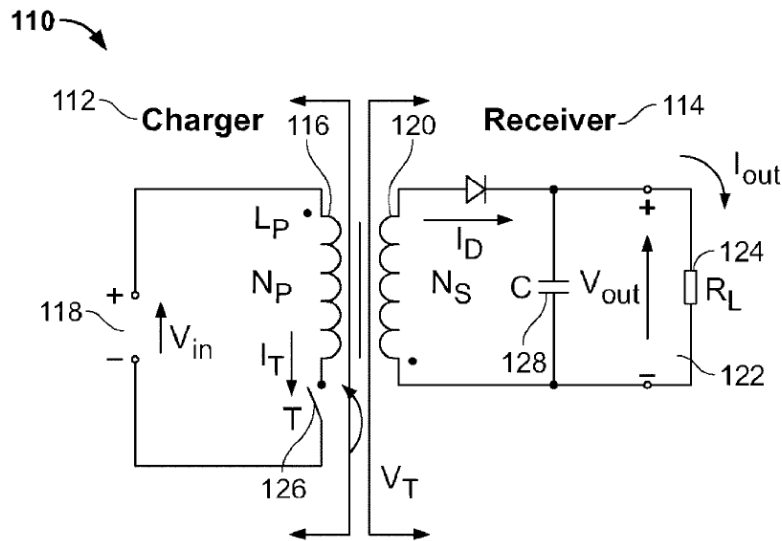


FIG. 2

Figure 2 shows charger 112 and receiver 114. In charger 112, a MOSFET switch 126 is operated so as to power a primary coil 116 with an AC voltage at an “appropriate operating frequency.” *Id.* at 8:11–19. In receiver 114, a consequent voltage is generated in a coil 120 and rectified (by a connected capacitor 128) to power a load 124. *Id.* at 8:19–22.

Figures 10 and 11, reproduced below, show circuit diagrams for recognizing the presence of a secondary device nearby, and then turning on the charging device when appropriate. *Id.* at 17:54–62.

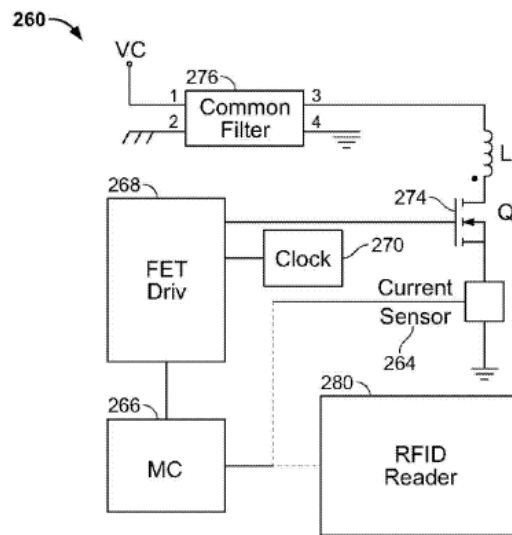


FIG. 10

In the charging device (pad circuit 260) shown by Figure 10, above, a microcontroller MCU1 266 controls activation (enables or disables) of a FET driver 268 that drives the charging coil L of the pad. *Id.* at 17:63–18:2. MCU1 266 activates FET driver 268 based on information received from RFID reader 280, which reads the corresponding information from an RFID tag of a nearby secondary device (receiver). *Id.* at 18:3–8. The information in the tag can identify the voltage required in the secondary device required to charge the device. *Id.* at 18:6–8. MCU1 266 may also monitor the current through FET driver 268 via a current sensor 264. *Id.* at 18:17–19.

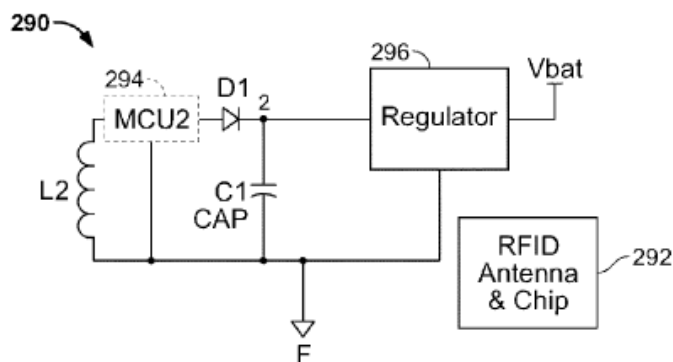


FIG. 11

In the secondary device (circuit 290) shown by Figure 11, above, during activation of the charging device (i.e., of FET driver 268 by MCU1 266), a microcontroller MCU2 294 powers up and modulates current into the secondary device (circuit 290). *Id.* at 18:44–55. A regulator 296 can draw the current in a pre-programmed manner on power-up. *Id.* at 18:48–50.

D. Illustrative Claim

Independent claim 1 is reproduced below, with Petitioner's identifiers in brackets.

1. [a] A charger system for use with a mobile, electronic, or other device and/or battery, battery door, or skin for use with the device, for charging and/or powering the device and/or battery inductively, comprising:

[b] a base unit having a surface, and comprising a plurality of primary coils arranged behind and parallel to the surface, wherein each of the primary coils is positioned within the base unit, and

[c] wherein each of the primary coils is associated with a switching circuit in the base unit, which switching circuit is capable of being selectively switched to activate its associated primary coil so that, when an electrical current is passed through that activated primary coil, a magnetic field is generated by that activated primary coil in a direction substantially perpendicular to the surface of the base unit, and

[d] wherein the base unit and/or switching circuit includes a capacitive or other component that decreases harmonics in that activated primary coil;

[e] a power supply for passing a current through the primary coils when activated, to generate the magnetic field in a direction substantially perpendicular to the plane of the primary coils;

[f] a communications interface that the base unit, and the mobile, electronic, or other device and/or battery, battery door, or skin

for use with the device, use to communicate with one another during powering or charging, to

[g] poll each of the primary coils, or receive a signal from a sensor associated therewith, to verify the presence of the mobile, electronic, or other device and/or battery, battery door, or skin for use with the device placed upon or close to the surface of the base unit,

[h] select, based on the polling or sensing, from within the plurality of primary coils, and selectively switch, using their associated switching circuits to activate, only those one or more primary coils which are determined to be most closely aligned with a receiver coil at the mobile, electronic, or other device and/or battery, battery door, or skin for use with the device, and

[i] periodically thereafter exchange information to provide power transfer to the device and/or battery, including device and/or battery charging or power status or presence; and

[j] wherein the substantially perpendicular magnetic field is used to inductively generate a current in the receiver coil within or on the mobile, electronic, or other device and/or battery, battery door, or skin for use with the device placed upon the activated primary coil of the base unit, to charge or power the device and/or battery, and

[k] wherein the base unit, and receiver coil or circuitry associated therewith, *use current modulation* performed by the receiver coil or its circuitry, to provide an indication that is then used by the base unit to

[1] determine and regulate one or more of output voltage, current, or power provided by the base unit to the device and/or battery to be within the range of one or more of a value of a required voltage, current, or other power parameter for the mobile, electronic, or other device and/or battery, battery door, or skin for use with the device, and/or

[2] verify the continued presence of the receiver coil near the base unit.

Ex. 1001, 26:32–27:27 (emphasis added).

E. Prior Art and Asserted Challenges to Patentability

Petitioner asserts that claims 1 and 18 are unpatentable based on the following challenges (Pet. 2–3):

Claims Challenged	35 U.S.C. § ²	Basis/References
1, 18	103(a)	Nakamura, ³ Berghegger ⁴
1, 18	103(a)	Nakamura, Berghegger, Hsu ⁵
1, 18	103(a)	Nakamura, Berghegger, Odendaal ⁶
1, 18	103(a)	Nakamura, Berghegger, Odendaal, Hsu
1, 18	103(a)	Nakamura, Berghegger, WangII ⁷

² Leahy-Smith America Invents Act (“AIA”), Pub L. No. 112–29, 125 Stat. 284 (2011), revised 35 U.S.C. §§ 102 and 103 effective March 16, 2013. Because the earliest possible effective filing date of the ’208 patent is before March 16, 2013, patentability is governed by the pre-AIA versions of §§ 102 and 103. *See* Pet. 3.

³ Nakamura et al., US 2005/0068019 A1 (published Mar. 31, 2005) (“Nakamura”) (Ex. 1005). Petitioner contends Nakamura qualifies as prior art under 35 U.S.C. § 102(b). Pet. 3.

⁴ Berghegger, US 6,912,137 B2 (issued June 28, 2005) (Ex. 1006). Petitioner contends Berghegger qualifies as prior art under 35 U.S.C. § 102(b). Pet. 3.

⁵ Hsu, US 2006/0202665 A1 (published Sept. 14, 2006). Petitioner contends Hsu qualifies as prior art under at least 35 U.S.C. §§ 102(b) and/or 102(e). Pet. 3.

⁶ Odendaal et al., US 6,960,968 B2 (issued Nov. 1, 2005) (“Odendaal”). Petitioner contends Odendaal qualifies as prior art under at least 35 U.S.C. §§ 102(b) and/or 102(e). Pet. 3.

⁷ Wang et al., WO 96/40367 (published Dec. 19, 1996) (“WangII”) (Ex. 1013). Petitioner contends WangII qualifies as prior art under 35 U.S.C. § 102(b). Pet. 3.

Claims Challenged	35 U.S.C. § ²	Basis/References
1, 18	103(a)	Nakamura, Berghegger, WangII, Odendaal, Hsu

In support of its proposed challenges, Petitioner relies on the Declaration of R. Jacob Baker, Ph.D. *See* Ex. 1002.

III. ANALYSIS

A. *Legal Standards*

A claim is unpatentable under 35 U.S.C. § 103(a) if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3)); *see also Intelligent Biosystems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016). At this preliminary stage, we determine whether the information presented in the Petition shows there is a reasonable likelihood that Petitioner would prevail in establishing that at least one of the challenged claims would have been obvious.

B. Level of Ordinary Skill in the Art

Petitioner asserts a person of ordinary skill in the art “would have had at least a master’s degree in electrical engineering, or a similar discipline, and two or more years of experience with wireless charging systems, including, for example, inductive power transfer systems.” Pet. 3–4 (citing Ex. 1002 ¶¶ 20–21, 22–64). Petitioner further asserts that “[m]ore education can supplement practical experience and vice versa.” *Id.*

At this stage of the proceeding, Patent Owner does not challenge Petitioner’s definition. Prelim. Resp. 6.

We find Petitioner’s proposal is consistent with the level of ordinary skill in the art reflected by the prior art of record and, therefore, adopt Petitioner’s proposed level of ordinary skill in the art for purposes of this Decision.

C. Claim Construction

Petitioner states that “no special constructions are necessary to assess whether the challenged claims are unpatentable over the asserted prior art.” Pet. 6 (citing Ex. 1002 ¶ 67). Patent Owner “does not dispute Petitioner’s statement on claim construction.” Prelim. Resp. 6. We determine that we do not need to expressly construe any term for purposes of this Decision.

D. Discretion to Deny Institution Under § 35 U.S.C. 314(a)

Under § 314(a), the Director has discretion to deny institution. *See Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”); *Harmonic*, 815 F.3d at 1367 (same). Patent Owner argues that we should exercise our discretion and deny the Petition based on the district court litigation and based on the multiple related petitions filed

by Petitioner. Prelim. Resp. 6–17. We need not address Patent Owner’s contentions concerning discretionary denial because, as discussed below, we determine that Petitioner has not established a reasonable likelihood of prevailing in demonstrating the unpatentability of at least one challenged claim of the ’208 patent.

E. Ground 1: Alleged Obviousness Over Nakamura and Berghegger

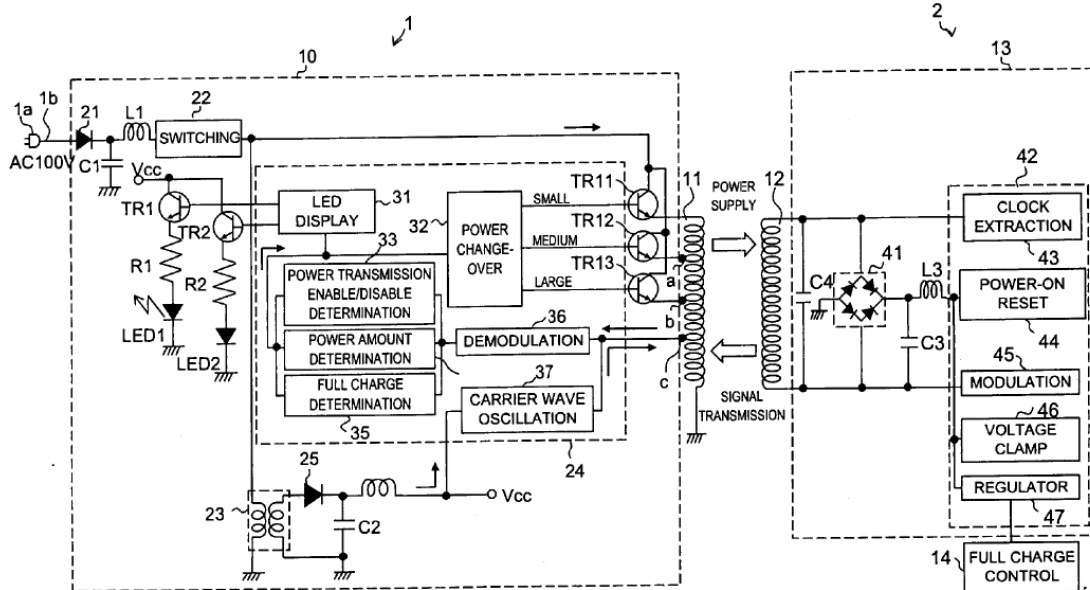
Petitioner contends claims 1 and 18 would have been obvious over Nakamura and Berghegger. Pet. 7–76. Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 17–33. Having considered the arguments and evidence before us, we find that the record does not establish a reasonable likelihood that Petitioner would prevail on at least one claim in this asserted ground of unpatentability.

1. Nakamura (Ex. 1005)

Nakamura is titled “Power Supply System” and generally discloses “a power supply system for supplying power, in a non-contact manner, to power reception equipment from a power transmission apparatus to which a commercial power supply is fed,” including “a power adjusting section for adjusting a level of power to be transmitted according to power required by the power reception equipment.” Ex. 1005, code (54), ¶ 17. For example, a commercial power supply (AC 100 V) is fed to power transmission apparatus 1 where it is converted to a DC voltage that is subjected to switching and supplied to a battery of portable telephone 2 so that the battery is charged by means of the non-contact power supply using magnetic coupling. *Id.* ¶ 62. Power transmission apparatus 1 can also recognize power reception equipment placed on it so as to transmit the power necessary depending on the type of power reception equipment. *Id.* ¶ 63.

Figure 3 of Nakamura, reproduced below, depicts a block diagram showing an electric configuration of a power supply system of a first embodiment. *Id.* ¶ 28.

FIG. 3



As shown in Figure 3, on the left side of a dashed vertical line Nakamura's system includes a power transmission apparatus 1 with primary side circuit 10 with primary side coil 11; on the right side of the dashed vertical line Nakamura's system includes portable telephone 2 with secondary side circuit 13 with secondary side coil 12. *Id.* ¶¶ 64, 66, 68.

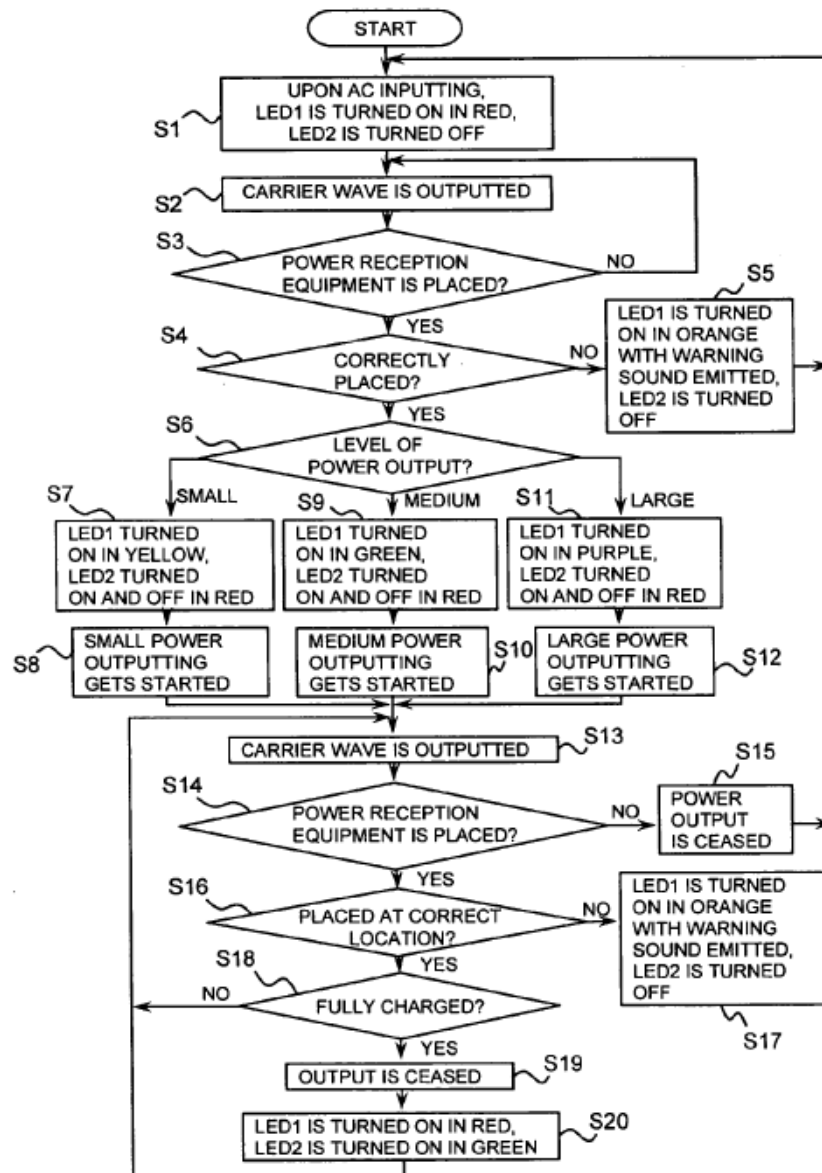
In the primary side circuit 10, AC 100 V is rectified in a rectification circuit 21 and smoothed in smoothing circuit constituting coil L1 and capacitor C1 so as to be converted into a DC voltage. *Id.* ¶ 68. "A pulse voltage obtained by subjecting the DC voltage to switching in a switching circuit 22 is supplied to the primary side coil 11 through transistors (power change-over section) TR11, TR12, and TR13." *Id.* Each of transistors TR11, TR12, and TR13 are "connected to power change-over circuit (power

change-over section) 32 in the power transmission control IC 24.” *Id.* ¶ 70. Power transmission control IC 24, which performs power transmission control of primary side circuit 10, includes LED display circuit 31, power change-over circuit 32, power transmission enable/disable determination circuit 33, power amount determination circuit 34, full-charge determination circuit 35, demodulation circuit 36, and carrier wave oscillation circuit 37. *Id.* ¶¶ 69–70. Primary side coil 11 has taps a, b, and c in descending order of the number of turns. *Id.* ¶ 69. Tap a is connected to an emitter of transistor TR12; tap b is connected to an emitter of transistor TR13; and tap c is connected to demodulation circuit 36 and carrier wave oscillation circuit 37. *Id.*

In the portable telephone 2 side, secondary side coil 12 is connected to smoothing capacitor C4 and rectification circuit 41. *Id.* ¶ 74. An induced voltage is full-wave rectified in rectification circuit 41, smoothed by a smoothing circuit that includes coil L3 and capacitor C3, and converted to a DC voltage. *Id.* A power receiving side control IC (power adjusting section) 42 includes clock extraction circuit 43, power-on reset circuit 44, modulation circuit 45, voltage clamp circuit 46, and regulator 47. *Id.* The DC voltage, which is obtained by converting a carrier wave transmitted from the primary side circuit 10, is supplied to power-on reset circuit 44 and used to determine whether a request for information signal has been issued from power transmission apparatus 1. *Id.* ¶¶ 74–75.

Figure 4, reproduced below, is a flowchart showing power supply operations in power transmission apparatus 1.

FIG. 4



Among other things, Figure 4 shows that after AC 100 V is inputted (step S1), carrier wave oscillation circuit 37 outputs a predetermined carrier wave (step S2) so that it can be determined whether power reception equipment is placed on power transmission apparatus 1 (step S3). *Id.* ¶ 76. The carrier wave is supplied to tap c of the primary side coil 11, transmitted to secondary side coil 12, rectified and smoothed by rectification circuit 41,

coil L3 and capacitor C3, and converted to a DC voltage. *Id.* ¶ 77. The power-on reset circuit 44 detects the DC voltage and recognizes that the carrier wave has been transmitted. *Id.* Clock extraction circuit 43 extracts a clock signal from the carrier wave, and modulation circuit 45 modulates the carrier wave “based on information regarding the portable telephone 2, namely, ‘code indicating being power reception equipment’, ‘information on consumed power’, and ‘information on full charge’ and supplies the modulated wave to the secondary side coil 12.” *Id.* “A modulation system adopted at this time is a phase modulation in which a carrier wave is cyclically intensity modulated to express 0/1 information with phase change information of a signal.” *Id.*

The modulated wave is transmitted to the primary side coil 11, demodulation circuit 36 receives and demodulates the transmitted modulated wave, and supplies the code or information to the power transmission enable/disable determination circuit 33, which determines whether or not power transmission reception equipment is placed on the power transmission apparatus (step S3). *Id.* ¶ 78. If so, it may be further determined if the power reception equipment is placed correctly on the power transmission apparatus 1 (step S4), and the level of power to be transmitted may be determined (step S6). *Id.* ¶¶ 78–85 (further discussing steps S6–S12). “Even after the power transmission is started, the carrier wave is regularly transmitted (step S13), and it is checked whether or not the portable telephone 2 which is power reception equipment, has been removed from on the power transmission apparatus according to the information included in the modulated wave transmitted back against the carrier wave (step S14).” *Id.* ¶ 86.

2. *Independent Claim 1*

Petitioner contends that the combination of Nakamura and Berghegger teaches each limitation of independent claim 1. Pet. 7–56. Because it is dispositive, we focus our analysis on limitation 1(k), which recites “wherein the base unit, and receiver coil or circuitry associated therewith, *use current modulation* performed by the receiver coil or its circuitry, to provide an indication that is then used by the base unit to . . .” Ex. 1001, 27:15–18 (emphasis added).

Petitioner contends that Nakamura “discloses/suggests using ‘current modulation’ as claimed to ‘provide an indication that is then used by the base unit to’ either (1) ‘determine and regulate . . .’ as recited in 1(k)(1) ‘and/or’ (2) verify the continued presence of the receiver coil as recited in 1(k)(2).” Pet. 48 (citing, e.g., Ex. 1002 ¶¶ 213–224).

Petitioner asserts that Nakamura “use[s] modulation techniques to communicate the information signals that provides an ‘**indication**’ that is used by apparatus 1 to regulate/control power/charge operations by either determining/regulating/controlling the level of power, and/or verify the continued presence/proper alignment of coil 12 near apparatus 1 (and primary coil(s) 11x/11y/11z).” *Id.* (citing, e.g., Ex. 1002 ¶ 214).⁸ Specifically, Petitioner relies on Nakamura’s modulation circuit 45, which

⁸ Petitioner also cites to §§ IXA.1(a)-(j), which encompasses forty pages of the Petition. This type of broad citation utilizing internal cross-references does not add clarity to Petitioner’s contentions. *See Consolidated Trial Practice Guide*, 39 (Nov. 2019), available at <https://www.uspto.gov/TrialPracticeGuideConsolidated> (stating that “parties should . . . focus on concise, well-organized arguments, easy-to-follow arguments supported by readily identifiable evidence of record”).

“modulates the carrier wave based on information regarding the device,” and demodulation circuit 36, which “demodulates the transmitted modulated wave.” *Id.* at 48–49 (citing e.g., Ex. 1005 ¶¶ 76–83, Fig. 4) (emphasis omitted). Petitioner contends that a person of ordinary skill in the art “would have understood that in performing such modulating, the information code(s) communicated by the device 2/3 is configured to provide indication(s) used by the base unit to determine/verify the presence/alignment of the mobile device/secondary coil and to determine/regulate the amount of voltage, current, or power provided by the base unit to the device.” *Id.* at 49 (citing, e.g., Ex. 1002 ¶¶ 214–215).

Patent Owner argues that Petitioner has not shown that Nakamura teaches “current modulation” because “in Nakamura, communication is in the form of a separate information signal injected by a separate circuit (45) in the receiver and applied to the secondary side (receiver) coil (12).” Prelim. Resp. 18 (citing Ex. 1005 ¶¶ 77–78). According to Patent Owner, “Nakamura does not communicate by modulating *the current induced in the receiver coil by the activated primary coil in the base unit* (the power transfer current used for charging or powering the battery or the device).” *Id.* at 19. Rather, Patent Owner argues, Nakamura’s “communication circuitry (43 and 45) generates a new phase-modulated wave (separate from the power transfer current) applied to the secondary side coil 12 and sent to the power transmitting module 10” and “does not modulate the power transfer current inductively generated in the receiver coil by the primary coil.” *Id.* at 21 (citing Ex. 1005 ¶¶ 77–78).

We agree with Patent Owner. Petitioner does not explain or address sufficiently how Nakamura performs *current* modulation. Although

Nakamura discloses modulating the carrier wave transmitted from the power transmission apparatus 1 and transmitting that modulated wave (the “information signal”) to primary side coil 11 (e.g., Ex. 1005 ¶¶ 77, 78, 80), we find persuasive Patent Owner’s arguments that Petitioner has not established that this discloses modulating the power transfer current induced by the base unit. *See* Prelim. Resp. 18–22. Petitioner cites to testimony from Dr. Baker that the “information signals (which have current) are modulated . . .” (Ex. 1002 ¶ 215), but this testimony does not establish current modulation. That is, simply because the information signals may *have* current fails to establish that current *modulation* is performed as recited in the claim. Therefore, on this record, we are not persuaded that Petitioner has sufficiently shown that Nakamura alone teaches this limitation for purposes of institution.

Petitioner alternatively contends that “it would have been obvious to configure the *Nakamura-Berghegger* system to use ‘current modulation’ to facilitate communication of the ‘indication’ modulated signals.” Pet. 49 (emphasis omitted). According to Petitioner, a person of ordinary skill in the art:

would have been motivated to configure the system to use ‘**current modulation**’ to communicate between apparatus 1 and device 2/3 as it would have been a predictable and obvious configuration/implementation of known modulation techniques and use of components in the modified system to adjust the property of the carrier wave signals for including/encoding information (e.g., current and voltage – both present in the carrier wave signals communicated between apparatus 1 and device 2/3)), including those that represent, e.g., the ‘code(s)’ used to confirm power reception equipment, full charge, and/or power level that allow the system to verify presence/alignment

of coil 12 and/or selectively charge/power device 2/3 (or its battery).

Id. at 49–50 (citing Ex. 1002 ¶ 216). Petitioner further argues, citing to various references, that “current modulation” is “a known modulation technique among a finite number of identified, predictable solutions to transmit/represent data in inductively coupled system like *Nakamura*.” *Id.* at 50. Petitioner contends that a person of ordinary skill in the art would have recognized that the information signals “(which have current) are modulated/demodulated according to Nakamura’s teachings, which in context of a [person of ordinary skill in the art’s] knowledge of known current modulation technologies/techniques . . . , would have motivated a [person of ordinary skill in the art] to modify the *Nakamura-Berghegger* system to use ‘current modulation’ to provide such indication-based information signals to apparatus 1.” *Id.* at 51 (citing Ex. 1002 ¶¶ 215–218); *see also id.* at 52–53. Petitioner additionally provides further arguments explaining how Petitioner contends Nakamura teaches limitations 1(k)(1) and 1(k)(2). *Id.* at 53–56.

Patent Owner argues that Petitioner does not identify circuitry in Nakamura’s system to create the modified current modulation-based communication system, and different circuitry in the receiver would be required because Nakamura is designed to inject a separate, phase-modulated signal into the secondary side coil. Prelim. Resp. 22. Additionally, Patent Owner argues that neither Nakamura nor Berghegger discloses current modulation, and Petitioner’s reliance on common knowledge of current modulation to supply a missing claim limitation is not sufficiently supported. *Id.* at 23–24. Patent Owner also argues that the

references cited by Petitioner fail to show that a person of ordinary skill in the art would have configured a receiver to use current modulation to transmit data in the context of wireless charging. *Id.* at 24–28.

We agree with Patent Owner that Petitioner has not sufficiently shown, for purposes of institution, that it would have been obvious to a person of ordinary skill in the art to modify the Nakamura-Berghegger system to use “current modulation.” As set forth above, Petitioner has not sufficiently shown that Nakamura teaches “current modulation.” Nor does Petitioner contend that Berghegger (or any other asserted reference in any ground) teaches “current modulation.” Instead, Petitioner asserts that current modulation was a “known modulation technique.” Pet. 50–51. But “a patent composed of several elements is not proved obvious by merely by demonstrating that each of [the] elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. Instead, “it can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does.” *Id.*

It is appropriate to consider common sense, common wisdom, and common knowledge in analyzing patent obviousness. *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016). However, references to common sense, whether to supply a motivation to combine or a missing patent claim limitation, “cannot be used as a wholesale substitute for reasoned analysis and evidentiary support, especially when dealing with a limitation missing from the prior art references specified.” *Id.* at 1362. Petitioner has not done so here. Rather, the Petition lacks reasoned analysis and evidentiary support for the modification to Nakamura. Petitioner provides nothing more than generic, conclusory reasoning to support that a

person of skill in the art would modify Nakamura to perform current modulation. For example, Petitioner contends that the modification would “facilitate communication of the ‘indication’ modulated signals” (Pet. 49), yet Petitioner provides no explanation as to how the modification would facilitate communication of the modulated signals. Nor does Petitioner explain the change in operation to Nakamura resulting from using current modulation. Similarly conclusory is Petitioner’s contention that current modulation was one of a “finite number of identified, predictable solutions.” Pet. 50. But Petitioner does not provide any explanation as to what other identified, predictable solutions might have been available to a person of ordinary skill in the art.

Even if we accept Petitioner’s contentions that a person of ordinary skill in the art knew of current modulation,⁹ at best Petitioner has only established that current modulation was known in the prior art, without bridging the gap to explain why or how a person of ordinary skill in the art would modify Nakamura’s system to perform current modulation. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016) (“Although the *KSR* test is flexible, the Board ‘must still be careful not to allow hindsight reconstruction of references . . . without any explanation as to how or why the references would be combined to produce the claimed invention.’”). The proposed modification appears to be informed by the requirements of the claim, rather than reasoned analysis and evidentiary support. *See, e.g., Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed.

⁹ Patent Owner provides various arguments that Petitioner has not established that current modulation was well known, but we need not reach those arguments. Prelim. Resp. 24–28.

Cir. 2015) (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.”). Likewise, Dr. Baker’s testimony does not provide additional insight for the proposed modification. *See* Ex. 1002 ¶¶ 213–218. The Federal Circuit has “repeatedly recognized that conclusory expert testimony is inadequate to support an obviousness determination on substantial evidence review.” *TQ Delta, LLC v. Cisco Sys., Inc.*, 942 F.3d 1352, 1359 (Fed. Cir. 2019).

Accordingly, on this record, we discern gaps in Petitioner’s arguments and evidence that lead us to determine that Petitioner fails to show a reasonable likelihood of prevailing at trial with respect to claim 1.

3. *Dependent Claim 18*

Claim 18 depends from claim 1. Ex. 1001, 29:48–51. Therefore, for the same reasons as for claim 1, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing at trial with respect to claim 18.

F. *Remaining Grounds*

Each of the remaining grounds relies on Nakamura and Berghegger, along with other references. Petitioner’s contentions as to limitation 1(k) are the same for all grounds. *See* Pet. 58–81. Therefore, for the same reasons as set forth above for the first ground, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing at trial on claims 1 or 18 on any asserted ground.

IV. CONCLUSION

After considering the evidence and arguments presented in the Petition, Preliminary Response, Preliminary Reply, and Preliminary Sur-

reply, we determine Petitioner has not established a reasonable likelihood of prevailing on its assertion that at least one claim of the '208 patent is unpatentable on at least one ground. Therefore, we do not institute an *inter partes* review.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is *denied*, and no trial is instituted.

IPR2023-01086
Patent 7,948,208 B2
For PETITIONER:

Joseph Palys
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