

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD,
Petitioner,

v.

MOJO MOBILITY INC.,
Patent Owner.

IPR2023-01090
Patent 11,292,349 B2

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

Opinion for the Board filed by *Administrative Patent Judge*
SZPONDOWSKI.

Opinion Concurring filed by *Administrative Patent Judge*
FITZPATRICK.

SZPONDOWSKI, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Samsung Electronics Co., Ltd. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 8, 13, and 15–18 of U.S. Patent 11,292,349 B2, issued on April 5, 2022 (Ex. 1001, “the ’349 patent”). Mojo Mobility Inc. (“Patent Owner”) filed a Preliminary Response (Paper 7, “Prelim. Resp.”). With our authorization, Petitioner filed a Preliminary Reply (Paper 8, “Reply”), and Patent Owner filed a Preliminary Sur-reply (Paper 10, “Sur-reply”).

After consideration of the parties’ arguments, we instituted an *inter partes* review of all challenged claims. Paper 11 (“Dec.”). During the trial, Patent Owner filed a Response to the Petition (Paper 13, “PO Resp.”). In the Response, Patent Owner states that the ’349 patent is no longer being asserted against Petitioner Samsung in the related district court litigation (*see* Section II.B. below), and “as a result, [Patent Owner] elects to not proffer additional arguments on the papers or through any hearings that may occur in this proceeding.” PO Resp. 1. Patent Owner reiterates, however, that Petitioner has the burden to prove unpatentability by a preponderance of the evidence. *Id.* Therefore, although Patent Owner raised various arguments in the Preliminary Response that were considered and addressed in our Institution Decision, those arguments have been waived because they were not raised in the Response. *See* Scheduling Order, Paper 12, 9 (cautioning Patent Owner that “any arguments not raised in the response may be deemed to be waived.”). Petitioner filed a Reply (Paper 14, “Pet. Reply”).

Petitioner filed a “Notice Regarding Oral Argument” stating that oral argument was not requested. Paper 15, 1. Patent Owner also did not request oral argument. Therefore, no oral argument was held in this proceeding.

We have jurisdiction under 35 U.S.C. § 6 (2018). This Decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of the claims on which we instituted trial. Petitioner has the burden of proving unpatentability of a claim by a preponderance of the evidence. 35 U.S.C. § 316(e).

As stated above, Patent Owner does not contest Petitioner’s contentions. We have reviewed Petitioner’s contentions and conclude that they show, by a preponderance of the evidence, that claims 8, 13, and 15–18 of the ’349 patent are unpatentable.

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 5, 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 5, 2.¹ The

¹ Petitioner incorrectly identified Case No. 1:22-cv-00398. Pet. 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 5, 2.

parties also state that Petitioner has concurrently filed another petition for *inter partes* review of the '349 patent (IPR2023-01089). *Id.*

C. The '349 Patent (Ex. 1001)

The '349 patent is titled “System and Method for Powering or Charging Receivers or Devices Having Small Surface Areas or Volumes” and is generally directed to “systems and methods for enabling transfer of power, from a wireless charger or power supply, to one or more receivers placed on or near the wireless charger or power supply, including powering or charging one or multiple receivers or devices having small surface areas or volumes.” Ex. 1001, code (54), 1:54–58.

The '349 patent discloses various embodiments of a system for wireless powering or charging of devices. Generally, “an inductive power transmitter employs a magnetic induction coil(s) transmitting energy to a receiving coil(s) in or on a device or product.” *Id.* at 4:4–7. Figure 1, reproduced below, illustrates such a system.

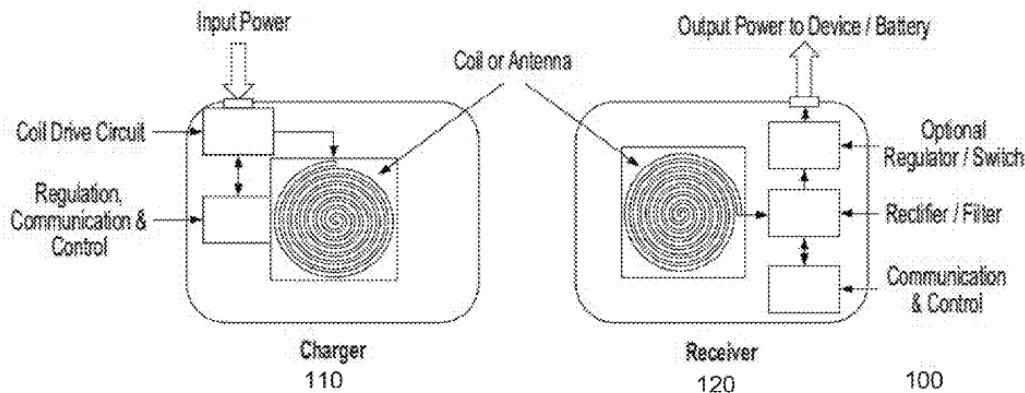


FIGURE 1

Figure 1, above, depicts a “wireless charger or power system 100,” which includes “a first charger or transmitter part 110 and a receiver 120 connected

to a mobile or stationary device.” Ex. 1001, 6:17–20. Both the charger or transmitter part 100 and the receiver 120 also include a coil. *Id.* at Fig. 1.

The transmitter (or charger) coil may be “constructed of Litz wire or patterned printed circuit board (PCB).” *Id.* at 7:42–44. “[T]he charger can operate continuously, and any appropriate receiver coil placed on or near its surface will bring it to resonance and will begin receiving power.” *Id.* at 7:65–8:1. The ’349 patent describes various geometries for the charger coils. *Id.* at 7:28–8:57.

Figure 5, reproduced below, illustrates a charger geometry.

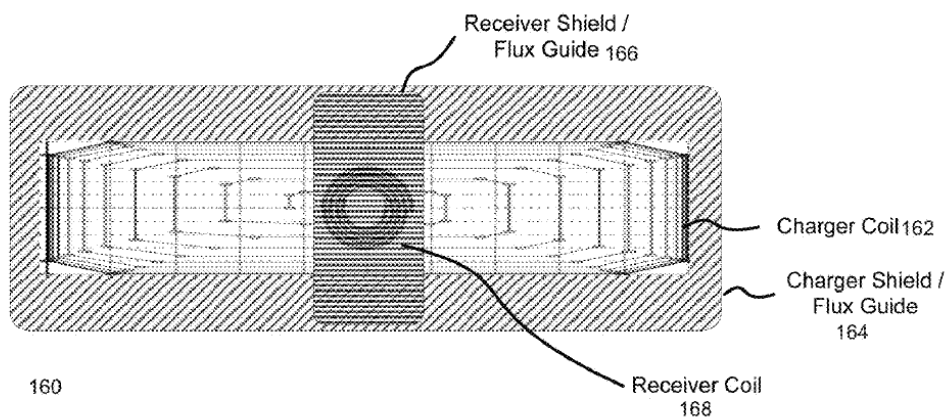


FIGURE 5

Figure 5, above, shows “geometry 160 whereby a charger coil 162 is placed on a magnetic flux guide/shielding layer 164 that extends beyond the edges of the coil.” *Id.* at 8:31–33. Additionally, receiver coil 168 “similarly has a magnetic flux/shielding layer 166 that extends beyond the size of the coil 168.” *Id.* at 8:33–35.

Figure 6, reproduced below, illustrates a return magnetic flux from a charger.

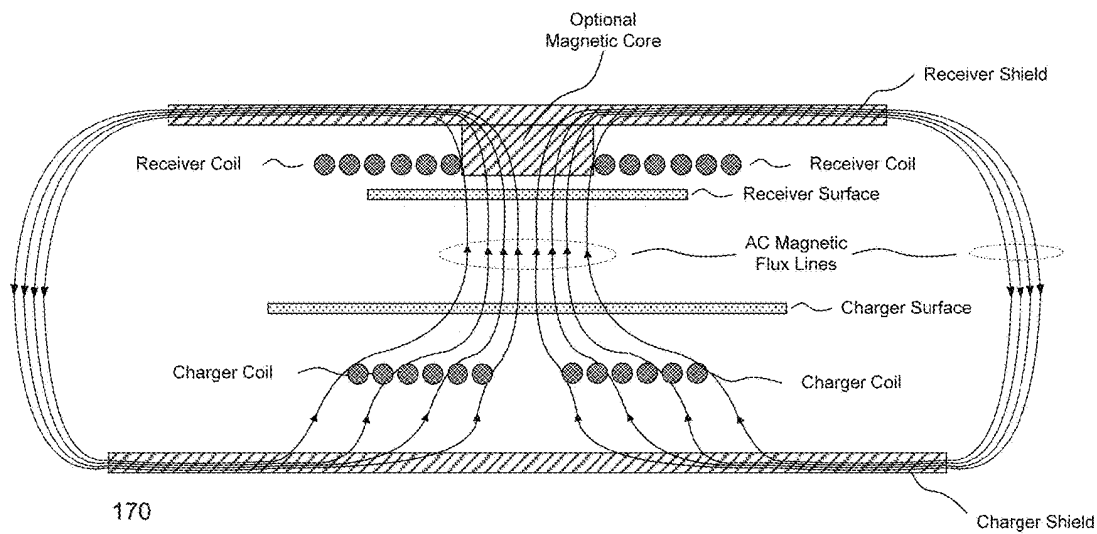


FIGURE 6

Figure 6, above, depicts, from top to bottom, a receiver shield, receiver coil, receiver surface, AC magnetic flux lines, charger surface, charger coil, and charger shield. The '349 patent further states that “the reluctance of the flux path in the receiver can be lowered by including high permeability material in the core of the receiver ring coil (similar to a solenoid).” Ex. 1001, 8:49–52. Additionally, a Litz wire receiver coil can be used. *Id.* at 8:54–57.

Figure 7, reproduced below, illustrates a wire wrapped around a core to create a solenoid type receiver.

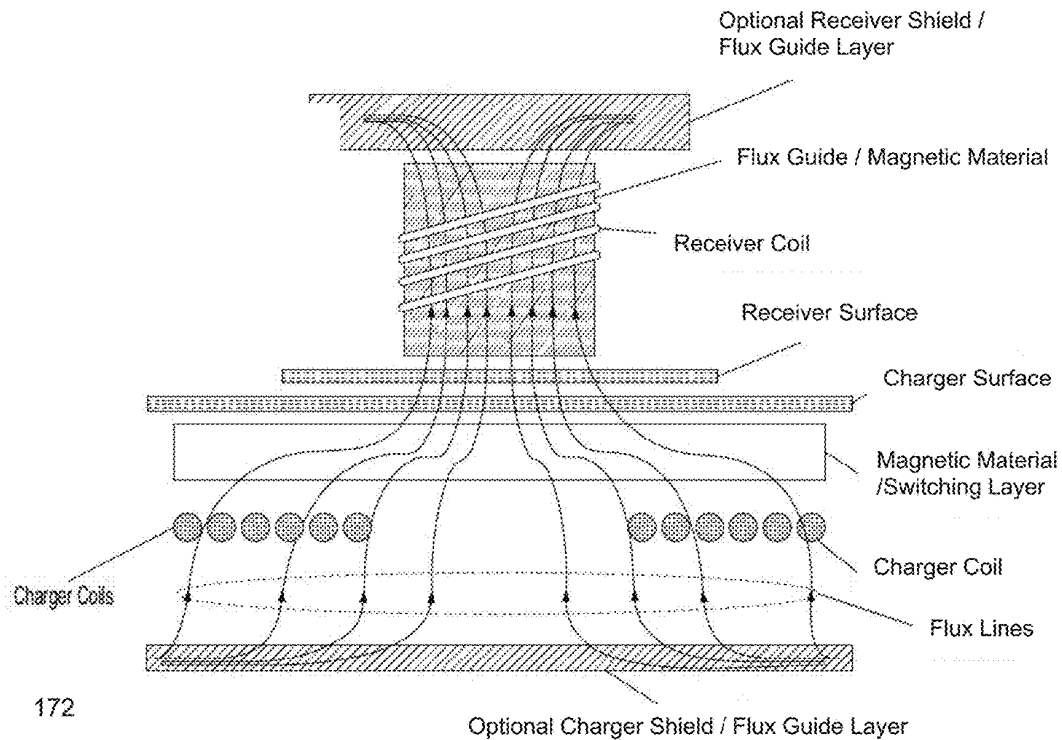


FIGURE 7

Figure 7, above, depicts, from top to bottom, an optional receiver shield/flux guide layer, flux guide/magnetic material, receiver coil, receiver surface, charger surface, magnetic material/switching layer, charger coil, flux lines, and optional charger shield/flux guide layer. Figure 7 shows Litz wire wrapped around the core of the receiver coil to create a solenoid type receiver. *Id.* at 8:64–65.

Figure 8, reproduced below, illustrates a ferrite lower magnetic shield or flux guide.

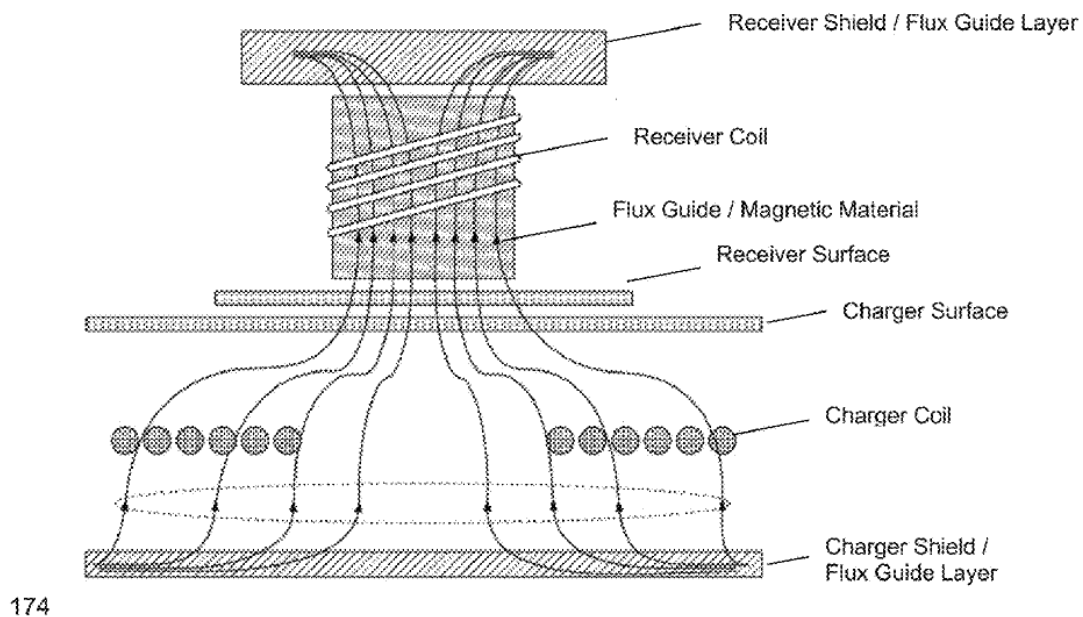


FIGURE 8

Figure 8, above, depicts, from top to bottom, a receiver shield/flux guide layer, receiver coil, flux guide/magnetic material, receiver surface, charger surface, charger coil, and charger shield/flux guide layer. Figure 8 shows an embodiment “with a thin (0.5 mm thick) ferrite lower magnetic shield/flux guide.” *Id.* at 9:11–13.

In addition, the '349 patent describes that “the charger and or receiver can include means to provide more precise alignment between the charger and receiver coils or antennas.” *Id.* at 14:35–37. “These can include visual, physical, or magnetic means to assist the user in alignment of parts.” *Id.* at 14:37–38. “To implement more positioning freedom of the receiver on the charger, the size of the coils can also be mismatched.” *Id.* at 14:38–40.

D. Illustrative Claims

Although independent claim 1 is not directly challenged here, the challenged claims depend from it. Claim 1 is reproduced below, with Petitioner's identifiers in brackets.

1. [1(a)] A system for inductive power transfer comprising:

[1(b)] a charger, wherein the charger is an inductive charger, and the charger includes:

[1(c)] a printed circuit board having a charger coil, wherein the charger coil has a substantially planar charger surface;

[1(d)] a substantially planar magnetic layer under the charger coil opposite the charger surface; and

[1(e)] a charger drive circuit, wherein the charger drive circuit includes a resonant capacitor and a FET switch to apply an alternating voltage to the charger coil; and

[1(f)] a first mobile device that includes a receiver to inductively receive power for the first mobile device, wherein the receiver includes:

[1(g)] a solenoid, wherein the solenoid includes:

[1(h)] a magnetic core having a relative magnetic permeability exceeding 1 and having first and second ends; and

[1(i)] Litz wire wrapped around a section of the magnetic core forming a wire wound section around the magnetic core, with the magnetic core extending beyond the wire wound section; and

[1(j)] a receiver electronic circuit, wherein the receiver electronic circuit includes a resonant capacitor and a rectifier; and

wherein:

[1(k)] the charger further includes a means for positioning the receiver in a power transfer position, proximate to the charger surface, to inductively transfer power to the receiver of the first mobile device;

[1(l)] the charger drive circuit is configured to drive the charger coil at one or more operating frequencies to inductively transfer power from the charger to the receiver when the receiver is positioned in the power transfer position, wherein when the receiver is positioned in the power transfer position, a tuned circuit, including the charger coil and the resonant capacitor of the charger drive circuit and the solenoid and the resonant capacitor of the receiver electronic circuit, has a resonant frequency that allows the charger to transfer the power to the receiver at the one or more operating frequencies;

[1(m)] the charger coil includes a conductor patterned to include multiple, substantially concentric turns for generating a magnetic flux through a first end of the solenoid when the receiver is placed in the power transfer position, wherein an outermost of the concentric turns defines a perimeter of a charger coil area;

[1(n)] the multiple concentric turns, when driven by the charger drive circuit, generate a magnetic field that is substantially perpendicular to the charger surface at a geometric center of the charger coil area,

[1(o)] the charger coil area is larger than an area of the first end and larger than an area of the second end of the magnetic core of the solenoid;

[1(p)] the magnetic layer of the charger extends beyond the charger coil area; and

[1(q)] when the receiver is in the power transfer position, the first end of the magnetic core is located proximate to the charger coil area above the charger surface to receive magnetic flux from the charger coil area and guide the magnetic flux in a closed magnetic

loop from the charger coil area through the solenoid and return through the charger magnetic layer to the charger coil area to form the closed magnetic loop.

Ex. 1001, 23:24–24:22. Claim 17, which depends from claim 1, is reproduced below:

17. The system of claim 1, wherein:

the receiver and the charger include communication and control electronics circuits to communicate, between the receiver and the charger, information associated with the transfer of power to the first mobile device; and

the communication is through a charger antenna that includes the charger coil and a receiver antenna that includes the solenoid.

Id. at 25:27–35. Claim 8, which also depends from claim 1, is produced below:

8. The system of claim 1, wherein the Litz wire is selected for operation at a frequency of greater than 205 kHz.

Id. at 24:48–49.

E. Prior Art and Asserted Challenges to Patentability

Petitioner asserts that claims 8, 13, and 15–18 are unpatentable on the following challenges (Pet. 2–3):

Claims Challenged	35 U.S.C. § ²	Basis/References
17	103	Fells ³
8	103	Fells, Silva, ⁴ and Jung ⁵
13, 15, 16	103	Fells, Sagoo ⁶
17	103	Fells, Walley ⁷
18	103	Fells, Ben-Shalom ⁸
17	103	Fells, Stoner, ⁹ Nakamura ¹⁰
8	103	Fells, Stoner, Nakamura, Silva, and Jung
13, 15, 16	103	Fells, Stoner, Nakamura, and Sagoo

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 ’349 patent is after March 16, 2013, patentability is governed by the AIA versions of §§ 102 and 103. *See* Pet. 4.

³ Fells et al., US 8,587,154 B2, issued Nov. 19, 2013 (Ex. 1005) (“Fells”). Petitioner contends Fells is prior art under at least 35 U.S.C. § 102(a)(2). Pet. 4.

⁴ Silva, US 8,975,523 B2, issued Mar. 10, 2015 (Ex. 1019). Petitioner contends Silva is prior art under at least 35 U.S.C. § 102(a)(2). Pet. 4.

⁵ Jung et al., US 9,178,376 B2, issued Nov. 3, 2015 (Ex. 1016) (“Jung”). Petitioner contends Jung is prior art under at least 35 U.S.C. § 102(a)(2). Pet. 4.

⁶ Sagoo, US 7,791,311 B2, issued Sept. 7, 2010 (Ex. 1048). Petitioner contends Sagoo is prior art under at least 35 U.S.C. § 102(a)(2). Pet. 4.

⁷ Walley, et al., US 8,390,249 B2, issued Mar. 5, 2013 (Ex. 1049) (“Walley”). Petitioner contends Walley is prior art under at least 35 U.S.C. § 102(a)(2). Pet. 4.

⁸ Ben-Shalom, et al. WO 2012/095850 A1 (published July 19, 2012) (Ex. 1050) (“Ben-Shalom”). Petitioner contends Ben-Shalom is prior art under at least 35 U.S.C. §§ 102(a)(1) and 102(a)(2). Pet. 4.

⁹ Stoner, Jr. et al., US 8,912,686 B2, issued Dec. 16, 2014 (Ex. 1011) (“Stoner”). Petitioner contends Stoner is prior art under at least 35 U.S.C. § 102(a)(2). Pet. 4.

¹⁰ Nakamura et al., US 2005/0068019 A1, published Mar. 31, 2005 (Ex. 1010) (“Nakamura”). Petitioner contends Nakamura is prior art under at least 35 U.S.C. §§ 102(a)(1) and 102(a)(2). Pet. 4.

Claims Challenged	35 U.S.C. § ²	Basis/References
17	103	Fells, Stoner, Nakamura, and Walley
18	103	Fells, Stoner, Nakamura, and Ben-Shalom

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*

Petitioner bears the burden to demonstrate unpatentability, and that burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

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).

A patent claim “is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. An obviousness determination requires finding “both ‘that a skilled artisan would have been motivated to combine the teachings of the

prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367–68 (Fed. Cir. 2016) (citation omitted); *see KSR*, 550 U.S. at 418. Further, an assertion of obviousness “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418; *In re NuVasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016) (a finding of a motivation to combine “must be supported by a ‘reasoned explanation’”).

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. 4 (citing Ex. 1002 ¶¶ 20–21). Petitioner further asserts that “[m]ore education can supplement practical experience and vice versa.” *Id.* Patent Owner has not proposed a level of ordinary skill in the art.

Because nothing in the record persuades us that our preliminary finding in the Institution Decision (Dec. 13) adopting Petitioner’s proposal was incorrect, we maintain our adoption of Petitioner’s proposed level of ordinary skill in the art.

C. Claim Construction

Petitioner provides a construction for the term “means for positioning [the/a] receiver in a power transfer position, [which is] proximate to the

charger surface, to inductively transfer power to the receiver [of the first mobile device],” as recited in limitation 1(k). Pet. 5 (bolding omitted).

Petitioner contends this term should be construed as a means-plus-function term, and that the underlined portion identified above identifies the function. *Id.* at 5–6. Petitioner contends that the corresponding structure is described in the Specification and in dependent claims 24 and 25. *Id.* at 6 (citing Ex. 1001, 14:35–38 (“[T]he charger and or receiver can include means to provide more precise alignment between the charger and receiver coils and antennas. These can include **visual, physical, or magnetic means to assist the user in alignment of parts.**”); 25:56–63 (claim 24: “the means for position includes **one or more magnets** to position the receiver in the power transfer position”, claim 25: “means for positioning includes one or more members of a group consistent of **visual, physical, or magnetic means** to assist in the positioning the receiver in the power transfer position.”)).

Patent Owner does not contest Petitioner’s position on this term. *See* PO Resp.

Our Decision does not require an express construction of any particular claim terms. *See 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))).

D. Independent Claim 1

As described above, Petitioner has filed two petitions challenging different claims of the ’349 patent, this Petition and a separate petition in

IPR2023-01089 (Paper 1). All of the challenged claims in this Petition depend from independent claim 1, which is challenged in IPR2023-01089. Petitioner devotes approximately half of the Petition for its contentions for independent claim 1. Pet. 7–55 (Fells), 92–94 (Fells, Stoner, Nakamura combination). Our review of both petitions leads us to the conclusion that Petitioner’s contentions for independent claim 1 are essentially the same in both IPR2023-01089 and in this Petition. *See id.*; IPR2023-01089, Paper 1, 7–63 (Fells), 86–88 (Fells, Stoner, Nakamura combination).¹¹ In addition, Petitioner provides the same arguments regarding claim construction. *See* Pet. 5–6; IPR2023-01089, Paper 1, 5–6 (Petition).

In the interest of brevity, we do not repeat Petitioner’s contentions and arguments and our analysis for independent claim 1. Rather, we refer to and incorporate our analysis set forth in the Final Written Decision in IPR2023-01089, where Petitioner challenges claim 1. *See* IPR2023-01089, Paper 16 (Final Written Decision), 12–13 (claim construction), 21–35 (Fells), 41–42 (Fells, Stoner, Nakamura combination). The only difference in Petitioner’s contentions here is that, in the combination of Fells, Stoner, and Nakamura (i.e., Grounds 6–10 in this Petition), Petitioner additionally contends that, to the extent Fells does not disclose the resonant capacitors and tuned circuit features (limitations 1(e), 1(j), 1(l)), a person of ordinary skill in the art

¹¹ The decreased number of pages in this Petition addressing independent claim 1 appears to be the result of Petitioner’s rephrasing in a manner that does not affect the substance of the contentions (e.g., providing a citation to the record without the accompanying language in quotation marks following) and the omission of Petitioner’s concurrent analysis of independent claim 26.

would have found it obvious in view of Stoner to configure Fells' system to use resonant technologies in the charger driver and receiver circuits to provide a tuned circuit.¹² Pet. 93–94. Patent Owner does not dispute these contentions. *See* PO Resp. However, as set forth in the Final Written Decision in IPR2023-01089, we are satisfied that Petitioner has shown, by a preponderance of the evidence, that Fells teaches each of the limitations in claim 1, including limitations 1(e), 1(j), and 1(l). IPR2023-01089, Paper 16, 21–35 (Fells). Additionally, we are also satisfied that Petitioner has shown, by a preponderance of the evidence, that combination of Fells, Stoner, and Nakamura teaches the limitations in claim 1. IPR2023-01089, Paper 16, 41–42 (Fells, Stoner, and Nakamura).

Accordingly, for the reasons set forth in the Final Written Decision in IPR2023-01089, Petitioner has shown, by a preponderance of the evidence, that claim 1 is unpatentable over Fells or over Fells, Stoner, and Nakamura.

E. Ground 1: Obviousness Over Fells (Claim 17)

Petitioner contends dependent claim 17, which depends from claim 1, would have been obvious over Fells. Pet. 55–58. Patent Owner does not dispute Petitioner's contentions. *See* PO Resp. Having considered the

¹² In the challenge against claim 17 over Fells and Walley, Petitioner similarly asserts that if Fells does not disclose the resonant/capacitors/tuned circuit features of claim 1 (e.g., limitations 1(e), 1(j), and 1(l)), then a person of ordinary skill in the art would have found it obvious in view of Walley to configure Fells "to use impedance matching circuitry with a resonant capacitor in the charge driver circuit and the receiver circuit to provide a tuned circuit to facilitate an efficient transfer of power and information between the charger and mobile device." Pet. 86. However, claim 1 is not challenged in this Petition, and there is no challenge against claim 1 over Fells and Walley in IPR2023-01089.

arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 17 would have been obvious over Fells. We agree with and adopt Petitioner's contentions as our own.

1. Fells (Ex. 1005)

Fells is titled "Inductive Power Supply" and generally describes an inductive power transfer system that includes a primary unit and a secondary device. Ex. 1005, codes (54), (57). Fells states:

To make recharging more convenient a recharging pad has been proposed in which there is a surface upon which devices may be placed in order to receive power wirelessly. This removes the need to physically connect a power cable to the portable device. It may also be designed such that a range of different models and types of device[s] can share the same charger. Further, it may be large enough to accommodate more than one device, so that multiple devices can be recharged simultaneously. However, it is particularly advantageous if it is possible to simply drop the device onto the pad without having regard for the position or orientation of the device on the pad.

Id. at 1:4–15. Fells discloses various embodiments for transferring power from a charger to a portable device.

Figure 1, reproduced below, shows a system for transferring power from a charger to a portable device:

Fig. 1

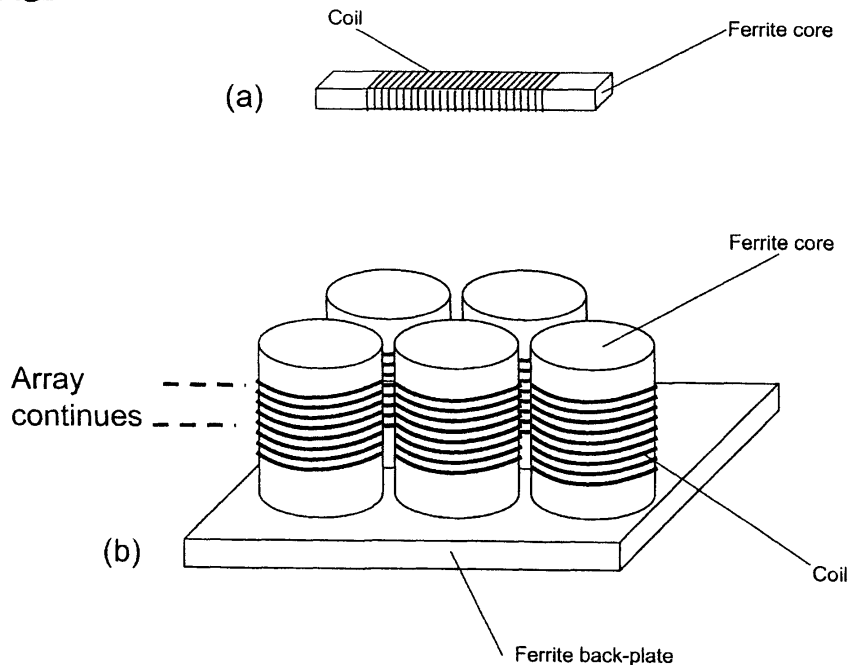


Figure 1(a), above, shows a power receiver with a ferrite core and coil wound around the core. Figure 1(b), above, shows part of a charging pad for transmitting power to the receiver. “The pad consists of an array of coils, each wound around a ferrite core. These cores are attached to a ferrite backplate. A charging surface is formed across the ends of the cores, such that the coil axes are perpendicular to the charging surface.” *Id.* at 6:61–65. “Preferably Litz wire is used for both the primary and secondary coils.” *Id.* at 7:3–4.

Figure 2, reproduced below, also shows a system for transferring power from a charger to a portable device:

Fig. 2

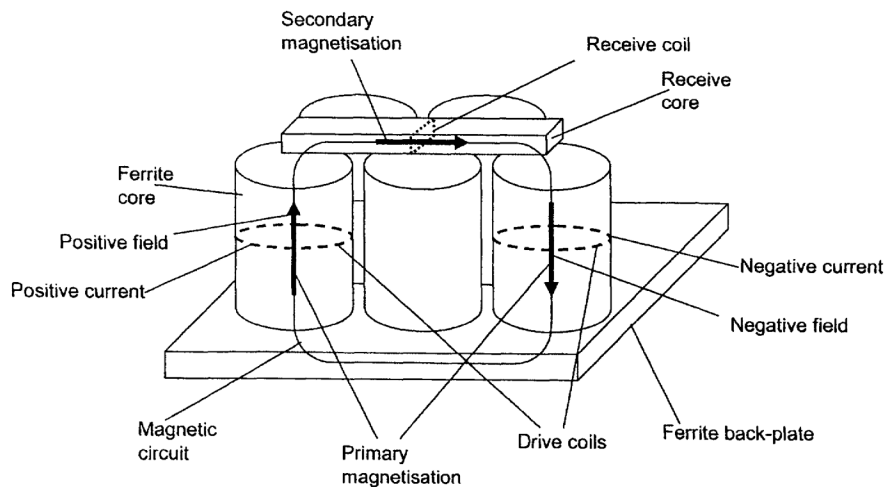


Figure 2, above, shows “the magnetic circuit formed when the power receiver is placed on the charging surface.” *Id.* at 7:9–10. Fells describes that “[a] coil in proximity to one end of the receiver is driven with current in a positive sense and a coil in proximity to the other end is driven in a negative sense.” *Id.* at 7:10–13. “The field is concentrated in the ferrite and forms a magnetic circuit from the first coil, through the receiver core, through the second coil and through the ferrite backplate to complete the circuit.” *Id.* at 7:13–16.

Figure 4, reproduced below, shows a configuration for transferring power to a power receiver.

Fig. 4

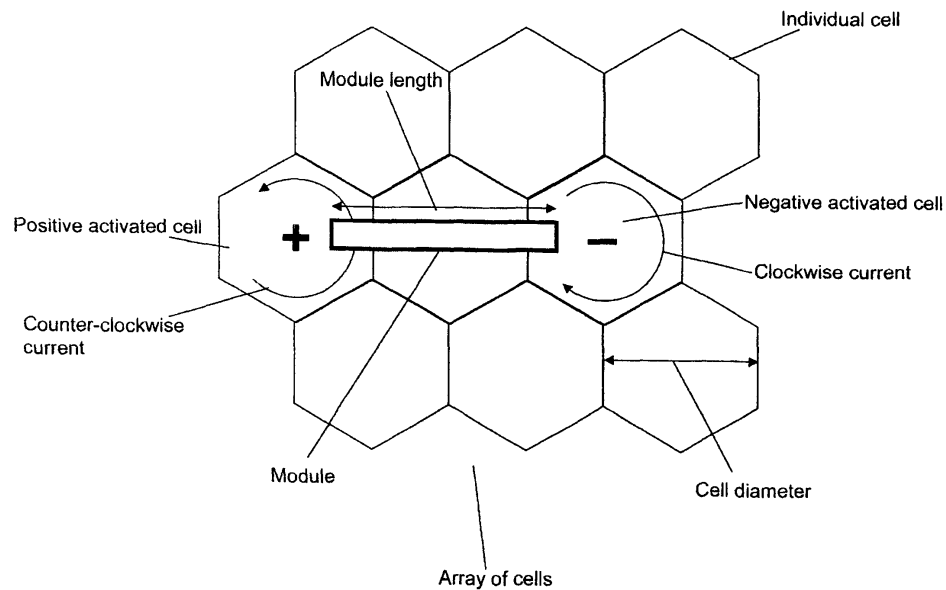


Figure 4, above, “illustrates the dimensional relationship between the power receiver and the charger coils.” *Id.* at 7:31–32. The coil positions are represented by hexagonal cells, and the energized coils are represented by a “+” for current flowing in a counter clockwise direction and a “-” for current flowing in a clockwise direction. *Id.* at 7:32–36.

Figure 16, reproduced below, shows a charger formed using a PCB implementation.

Fig. 16

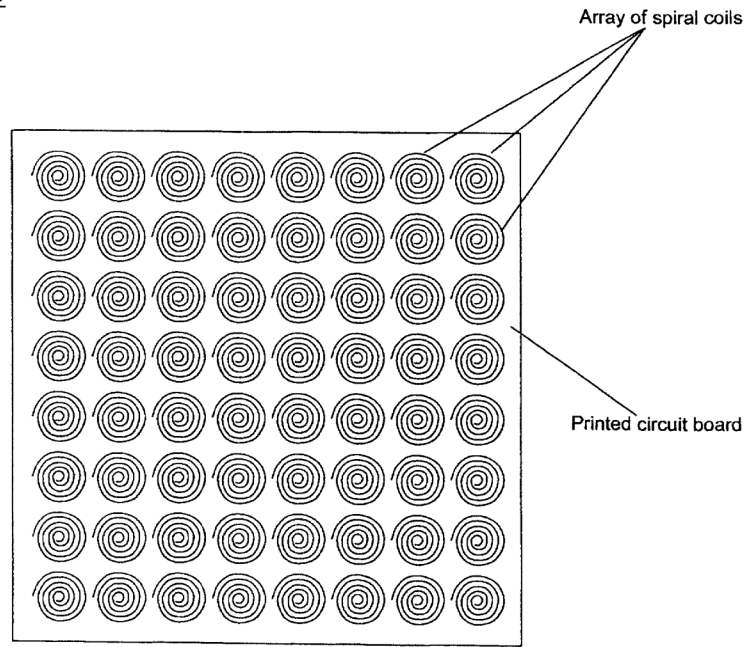


Figure 16, above, shows an array of planar spiral coils used to generate vertical fields. *Id.* at 10:27–28. “A ferrite back plate would typically be [used] to complete the magnetic circuit.” *Id.* at 10:31–32.

Figure 17, reproduced below, shows another charger configuration using a PCB implementation.

Fig. 17

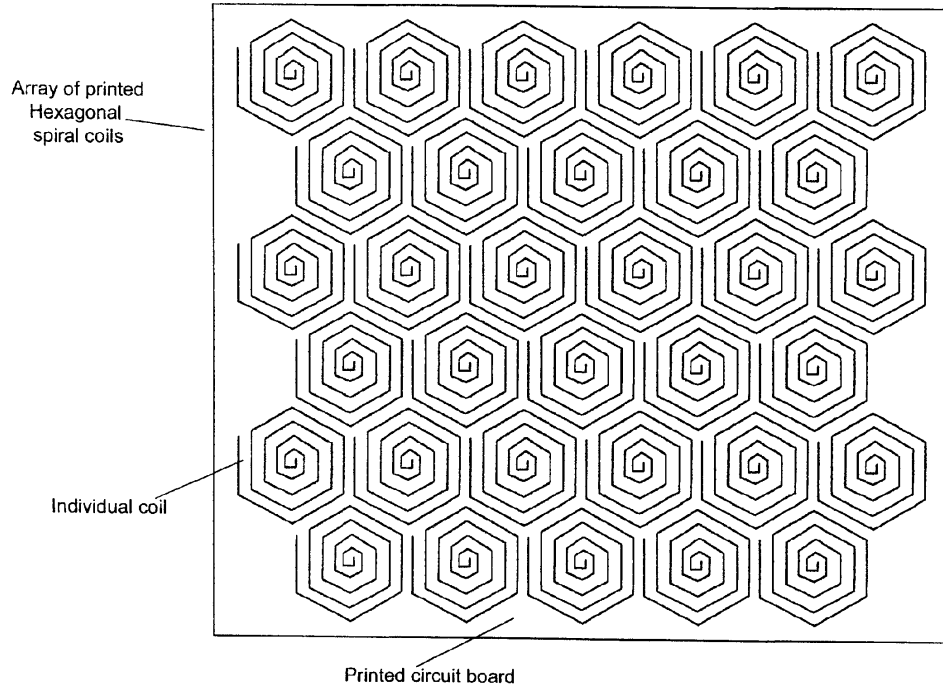


Figure 17, above, shows an array of hexagonal coils which are close-packed together. *Id.* at 10:35–37.

Figure 18, reproduced below, shows a hybrid charger system that allows two different types of receivers within the portable device to be used. *Id.* at 10:38–40.

Fig. 18

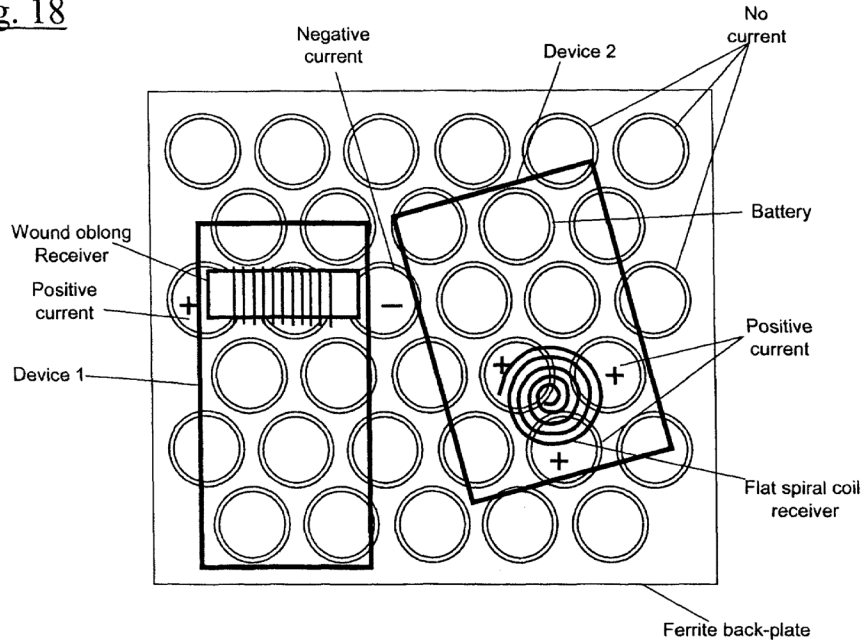


Figure 18, above, shows device 1 with a horizontal coil axis wound around magnetic material, and device 2 with a flat spiral coil as its power receiver. *Id.* at 10:40–42.

Figure 23, reproduced below, shows another charger configuration, that is described as “a simpler and lower cost alternative to a flat pad charger.” *Id.* at 11:45–46.

Fig. 23

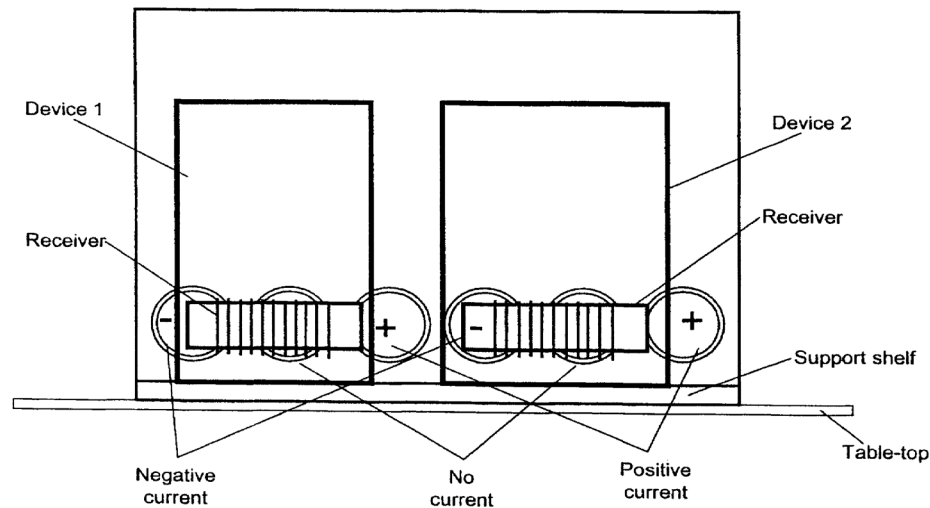


Figure 23, above, shows a charger in the form of a shelf such that the device stands upright on a ledge, with a single line of charger coils. *Id.* at 11:46–48. “The receiver is positioned in the portable device a set distance away from the bottom edge. Thus, there is always alignment in one dimension.” *Id.* at 11:48–51. “Depending on which part of the shelf the device is placed, different coils are accordingly activated. The shelf allows devices to be placed anywhere along a line.” *Id.* at 11:51–54. Fells further states:

Wound Litz-wire primaries are the ultimate solution for low primary losses. Wound components with or without ferrite cores can be used. Ferrite cores can be added to give a small shape-factor benefit (if cost-effective) and to produce an even flatter coupling factor. However, overall cost and manufacturability is less attractive. Other planar coil technologies such as PCB coils or watch-spring coils can be

used to reduce cost, but typically exhibit higher losses (lower coil Qs).

Id. at 11:56–64. Further, “[a] ferrite back-plate may be used behind the vertical cores to act as a flux return path, and this improves the coupling factor.” *Id.* at 11:67–12:2. “The permeable material from which the cores and/or back-plate are manufactured is preferably Mn–Zn ferrite, but other magnetic materials . . . could be used.” *Id.* at 12:3–8.

2. *Analysis of Claim 17*

Claim 17 depends from claim 1 and further recites

the receiver and the charger include communication and control electronics circuits to communicate, between the receiver and the charger, information associated with the transfer of power to the first mobile device; and

the communication is through a charger antenna that includes the charger coil and a receiver antenna that includes the solenoid.

Ex. 1001, 25:27–35.

Petitioner contends that Fells teaches dependent claim 17. Pet. 55–58. In support, Petitioner identifies certain passages and figures in Fells and explains their significance with respect to the corresponding limitation. *Id.* We agree with and adopt Petitioner’s analysis as our own.

Petitioner contends, and we agree, that Fells discloses “implementations involving exchanging information between the charger and mobile device to control the transfer of power.” Pet. 55–56 (citing Ex. 1005, 10:55–59 (“[i]t may be necessary for the portable device to communicate what type of receiver it is to the charger, so that the charger

can correctly determine which coils should be activated and with what polarity configuration”)). For example, Fells teaches that “the secondary coil has ‘dual use as an RFID antenna’ that would communicate with the charger ‘over the RFID channel’ formed by ‘inductive communications using the primary and secondary coils’ for purposes of sensing location/position of the ‘receiver coil.’” *Id.* at 56 (citing Ex. 1005, 12:20–22, 12:37–40) (emphasis omitted). We are persuaded by Petitioner’s arguments that “[t]he communication necessarily includes ‘information associated with the transfer of power to the first mobile device’ given the location of the receiver coils is used by the charger to activate selected coils.” *Id.* at 56–57 (citing, e.g., Ex. 1005, 12:60–61 (“[t]he position of the secondary is sensed and then power is transferred by switching on the appropriate primaries”)) (emphasis omitted)).

Petitioner further contends that a person of ordinary skill in the art would have understood, “by use of an ‘RFID channel’ with the secondary coil ‘antenna,’ that Fells necessarily discloses the primary coil has dual use as an ‘antenna’ to communicate information over the channel.” Pet. 57 (citing Ex. 1002 ¶ 228; Ex. 1005, 12:37–40). Alternatively, Petitioner contends that it would have been obvious “to configure the Fells system to utilize the charger coil as an antenna to facilitate the exchange of information over the ‘RFID channel’ like the mobile device’s secondary coil (‘solenoid’).” *Id.* at 57–58 (citing Ex. 1002 ¶ 229). Petitioner contends that a person of ordinary skill in the art “would have had reasons to consider such a predictable configuration” given that Fells “describes the exchange of information between the charger and mobile device to control the transfer of

power.” *Id.* at 58 (citing Ex. 1005, 12:41–43, 10:55–59; Ex. 1002 ¶ 230). We are persuaded by and adopt Petitioner’s contentions under either theory. *See* Pet. 57–58.

Accordingly, having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 17 would have been obvious over Fells.

F. Ground 2: Obviousness over Fells, Silva, and Jung (Claim 8)

Petitioner contends that claim 8, which depends from claim 1, would have been obvious over Fells, Silva, and Jung. Pet. 59–64. Patent Owner does not dispute Petitioner’s contentions. *See* PO Resp. Having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 8 would have been obvious over Fells, Silva, and Jung. We agree with and adopt Petitioner’s analysis as our own.

1. Silva (Ex. 1019)

Silva is titled “Optimized Litz Wire” and is generally directed to a system and methods for providing an optimized Litz wire. Ex. 1019, code (54), 3:31–32. Among other things, Silva discloses that “[i]t will be appreciated that the gauge selected for the various strands of the wire 130 may be chosen dependent upon the frequency and magnitude of the current intended for the application.” *Id.* at 6:16–19.

2. Jung (Ex. 1016)

Jung is titled “Non-Contact Charging Station With Power Transmission Planar Spiral Core, Non-Contact Power-Receiving Apparatus, and Method for Controlling the Same.” Ex. 1016, code (54). Jung discloses

various embodiments “in which a primary core of the non-contact charging station transmitting a power signal using an induced magnetic field toward a portable device is configured as a planar-spiral power transmission Printed Circuit Board (PCB) core to simplify its shape, so that applicability to a non-contact charger and the like can be improved.” *Id.* at 2:39–45. Jung’s Table 3 is reproduced below:

TABLE 3

Comparison with Convention Litz Core			
Items	Litz core	PSR PTPCB core	EGPL-PTPCB core
Material	Copper (99.99%)	Copper (70 μ m) + PSR Coating	Copper (70 μ m) + Electroless plating (0.03 μ m)
Thickness	0.35 mm	0.4 mm	0.4 mm
Size	32 $\times$ 32 mm	32 $\times$ 32 mm	32 $\times$ 32 mm
Shape	Rectangular	Planar rectangular	Planar hexagon
Number of turns	20 (Litz shape)	24/(1Layer)	24/(2Layer)
Number of threads per turn	7	1	1
Thickness of wire	0.15 Φ	1 mm/2 oz	1 mm/2 oz
Inductance	7.7 μ H	11 μ H	7.8 μ H
Q (no shield)	27	9	20
DCR (Internal resistance)	230 m Ω	850 m Ω	350 m Ω
Efficiency@2.5 W (5 V $\times$ 500 mA)	61%	53%	60%
Temp@2.5 W (5 V $\times$ 500 mA)	40	42	40
Rate of change of inductance	1.5%	0.5%	0.5%
Operation frequency	100~250 kHz	100~250 kHz	100~250 kHz
Cost	Middle (Facility investment required)	Low	Middle (Facility investment not required)
Performance	Average	Average	Good

Table 3, above, shows a comparison of conventional Litz cores with the characteristics of the cores described in Jung. *Id.* at 14:64–67. In particular, the “Litz core” describes an “operation frequency” at “100–250 kHz.”

3. *Analysis of Claim 8*

Claim 8 depends from claim 1 and further recites “wherein the Litz wire is selected for operation at a frequency of greater than 205 kHz.” Ex. 1001, 24:48–49.

Petitioner contends the combination of Fells, Silva, and Jung teaches the limitations in dependent claim 8. Pet. 59–64. In support, Petitioner identifies certain passages and figures in Fells, Silver, and Jung and explains their significance with respect to the corresponding claim limitations. *Id.* We agree with and adopt Petitioner’s contentions as our own.

As noted by Petitioner, Fells discloses that Litz wire is preferably used for both the primary and secondary coils (e.g., Ex. 1005, 7:3–8), but does not expressly state that the Litz wire is selected for operation at a frequency greater than 205 kHz. Pet. 27–28, 59. We agree with Petitioner that it would have been obvious to configure Fells’ system to use such a Litz wire in view of Silva and Jung. *Id.* (citing Ex. 1002 ¶ 233). Silva teaches configuring Litz wire for certain applications, such as high frequencies. *Id.* at 60–61 (citing, e.g., Ex. 1019, 6:16–19 (describing that “[i]t will be appreciated that the gauge selected for the various strands of the wire 130 may be chosen dependent upon the frequency and magnitude of the current intended for the application”)). Jung teaches that it was known to select Litz wire for a wireless charging coil operating at 100–250 kHz. *Id.* at 62 (citing, e.g., Ex. 1016, 15:1–25, Table 3). We agree with Petitioner that a person of ordinary skill in the art “would have understood the selection/properties of Litz wire as disclosed by Fells,” and would have been motivated to select a Litz wire for operation at various high frequencies to accommodate given

applications, including at a frequency greater than 250 kHz. *Id.* at 60 (citing, e.g., Ex. 1005, 7:3–8 (“[p]referably Litz wire is used for both the primary and secondary coils”)); *id.* at 62 (citing Ex. 1002 ¶ 242); *see also id.* at 63 (to “add versatility in the types of implementations contemplated by Fells (e.g., operations at relatively high frequencies)”).

Accordingly, having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 8 would have been obvious over Fells, Silva, and Jung.

G. Ground 3: Obviousness Over Fells and Sagoo (Claims 13, 15, 16)

Petitioner contends that claims 13, 15, and 16, which depend from claim 1, would have been obvious over Fells and Sagoo. Pet. 65–82. Patent Owner does not dispute Petitioner’s contentions. PO Resp. Having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claims 13, 15, and 16 would have been obvious over Fells and Sagoo. We agree with and adopt Petitioner’s analysis as our own.

1. Sagoo (Ex. 1048)

Sagoo is titled “Apparatus and Method of Wirelessly Sharing Power By Inductive Method” and generally describes “a method of inductively charging a battery in a non-contact or wireless manner . . . by providing a common interface among mobile/portable devices and sharing power supplies in a wireless or non-contact manner.” Ex. 1048, 2:9–13.

Figure 4, reproduced below, shows an exemplary embodiment of two mobile devices charging in a non-contact manner. Ex. 1048, 3:4–6.

FIG. 4

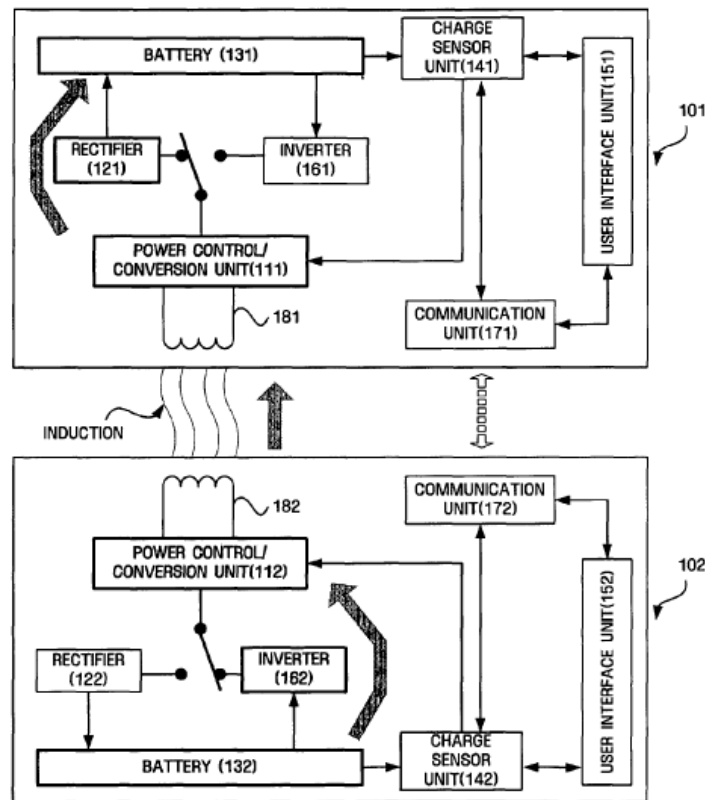


Figure 4 shows first mobile device 101 in the load mode, and mobile device 102 in the source mode.¹³ Ex. 1048, 5:42–44. Mobile device 101 includes power control/conversion unit 111 connected to rectifier 121, and rectifier 121 converts an AC voltage to a DC voltage and provides the DC voltage to battery 131 to charge battery 131. *Id.* at 5:45–48. Mobile device 101 includes power control/conversion unit 112 connected to inverter 162. *Id.* at 5:49–50. When inverter 162 converts a DC voltage charged in battery 132

¹³ Sagoo states that “a mode in which a mobile device provides energy to another device is referred to as a source mode, and a mode in which the battery of the mobile device is charged by energy from another device is referred to as a load mode.” Ex. 1048, 4:30–33.

into an AC voltage and supplies the AC voltage to power control/conversion unit 112, power control/conversion unit 112 provides energy to mobile device 101. *Id.* at 5:51–55. Communication units 171 (in mobile device 101) and 172 (in mobile device 102) perform information exchange required for the process of providing and receiving energy. *Id.* at 5:56–58.

2. *Analysis of Claim 13*

Claim 13 depends from claim 1 and further recites:

the charger is incorporated into a second mobile device;

the second mobile device includes an internal, rechargeable battery;

the second mobile device uses the internal battery to transfer power to and operate the charger for a period of time; and

the first and second mobile devices comprise Bluetooth communication systems to communicate with each other during non-power transfer operations.

Ex. 1001, 25:4–13.

Petitioner contends the combination of Fells and Sagoo teaches the limitations in dependent claim 13. Pet. 65–75. In support, Petitioner identifies certain passages and figures in Fells and Sagoo and explains their significance with respect to the corresponding claim limitations. *Id.* We agree with and adopt Petitioner’s contentions as our own.

Petitioner contends, and we agree, that Fells “discloses no limits on the type of device into which the charger can be incorporated” and a person of ordinary skill in the art would have understood that Fells “contemplates charger implementations that are compatible with portable applications.”

Pet. 65–66 (citing, e.g., Ex. 1005 1:41–6:3, 14:42–22:32, 11:45–12:19, Fig. 23; Ex. 1002 ¶¶ 248–249). Sagoo discloses configurations which “include rechargeable batteries within each mobile device that are used to operate that mobile device and to act as a source of power inductively transferred to another mobile device (in source mode), thus operating as a ‘charger’ . . . and also a Bluetooth communication system for communicating with another mobile device.” *Id.* at 67–69 (citing Ex. 1048, code (57), 1:15–2:54, 3:52–8:41, Figs. 1, 4–8; Ex. 1002 ¶¶ 251–252) (internal citations omitted); *see also id.* at 71–72 (additionally citing Ex. 1048, 6:14–16, 6:26–55, 7:4–8:6) (arguing that Sagoo discloses a rechargeable battery in the mobile device).

We agree with Petitioner that, given the teachings in Fells and Sagoo, a person of ordinary skill in the art would have been motivated to configure Fells’ system such that the “charger” is implemented in “a second mobile device,” and that the second mobile device would have included a rechargeable battery. Pet. 66, 69–72 (citing Ex. 1048, 1:21–2:8, 1:53–58, 1:64–2:8; Ex. 1002 ¶¶ 250, 255, 256, 258). We agree with Petitioner that a person of ordinary skill in the art would have appreciated the benefits and advantages that such modifications would provide, would have had reasons to implement the modifications, and would have had a reasonable expectation of success in doing so. *Id.*

Additionally, we agree with Petitioner that in the modified system, the “second mobile device” would have operated to transfer power to and operate the charger in the device so that the device can perform operations consistent with those disclosed by Fells. Pet. 73 (citing Ex. 1002 ¶ 259–260). Moreover, both Fells and Sagoo disclose use of Bluetooth

communication systems in mobile devices, with Fells indicating that communication may occur at times “during non-power transfer operations.” *Id.* at 74–75 (citing Ex. 1005, 12:20–22, 12:34–36; Ex. 1048, Figs. 3–5, 5:5–21, 5:55–65, 6:17–25; Ex. 1002 ¶ 262). We agree with Petitioner that in light of these teachings and a person of ordinary skill in the art’s knowledge of Bluetooth technologies to facilitate communication of information between mobile devices, a person of ordinary skill in the art would have found it obvious to configure the devices in the modified Fells system to include similar technologies. *Id.* at 75 (citing Ex. 1049, 1:56–60, 4:14–55, 5:45–59, 6:13–21, 14:5–14, 15:51–61; Ex. 1002 ¶ 263).

Accordingly, having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 13 would have been obvious over Fells and Sagoo.

3. *Analysis of Claim 15*

Claim 15 depends from claim 13 and recites “wherein the second mobile device further includes: an additional inductive charger, wherein the additional inductive charger includes an additional charger coil to transfer power to additional mobile devices.” Ex. 1001, 25:17–21.

Petitioner contends the combination of Fells and Sagoo teaches the limitations in dependent claim 15. Pet. 76–79. In support, Petitioner identifies certain passages and figures in Fells and Sagoo and explains their significance with respect to the corresponding claim limitations. *Id.* We agree with and adopt Petitioner’s contentions as our own.

Fells discloses multiple-device charging configurations, constituting a “charger” and an “additional inductive charger” in the primary unit. Pet.

76–77 (Ex. 1005, Figs. 8, 23; 1002 ¶ 265–266). We agree with Petitioner’s contentions that a person of ordinary skill in the art would have been motivated to modify the combined Fells-Sagoo system of claim 13 to include an additional inductive charger as recited in claim 15 in the second mobile device. *Id.* at 77–78 (citing Ex. 1002 ¶ 267). For example, one example Petitioner provides is that a person of ordinary skill in the art would have been motivated to configure the modification to include a “second mobile device” as a laptop computer that may have a plurality of charging coils positioned in the cover of the laptop so that multiple other mobile devices can be positioned on the closed cover to be inductively powered. *Id.* at 77–79 (citing Ex. 1002 ¶¶ 268–270; Ex. 1048, Fig. 8, Fig. 5, 6:49–7:3). We find this persuasive.

Accordingly, having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 15 would have been obvious over Fells and Sagoo.

4. Analysis of Claim 16

Claim 16 depends from claim 13 and recites “wherein the receiver of the first mobile device is a first receiver, and the second mobile device includes a second receiver to inductively receive power to charge the internal, rechargeable battery of the second mobile device.” Ex. 1001, 25:22–26.

Petitioner contends the combination of Fells and Sagoo teaches the limitations in dependent claim 16. Pet. 79–82. In support, Petitioner identifies certain passages and figures in Fells and Sagoo and explains their

significance with respect to the corresponding claim limitations. *Id.* We agree with and adopt Petitioner’s contentions as our own.

Petitioner contends that the analysis for claim 13 demonstrates “why it would have been obvious to configure the modified system such that the ‘rechargeable battery’ in the second device can operate as an internal power source for the second mobile device, and also can be configured to receive power for charging the battery.” Pet. 79–81 (citing Ex. 1048, Figs. 3–5, 4:30–7:3). We are persuaded by Petitioner’s proposed reasoning for the combination, for example, that the modification would have been beneficial by providing charging options for the “second mobile device” without requiring a wired external power source, as suggested by Sagoo. *Id.* at 81–82 (citing Ex. 1002 ¶ 273).

Accordingly, having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 16 would have been obvious over Fells and Sagoo.

H. Ground 4: Obviousness Over Fells and Walley (Claim 17)

Petitioner contends dependent claim 17, which depends from claim 1, would have been obvious over Fells and Walley. Pet. 82–86. Patent Owner does not dispute Petitioner’s contentions. *See* PO Resp. Having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 17 would have been obvious over Fells and Walley. We agree with and adopt Petitioner’s analysis as our own.

1. Walley (Ex. 1049)

Walley is titled “Battery With Integrated Wireless Power Receiver and/or RFID” and generally describes a battery with “one or more rechargeable cells, a wireless power coil, a battery charger circuit, and may further include an RFID module.” Ex. 1048, codes (54), (57).

Figure 8, reproduced below, shows an embodiment of a portion of a wireless power system. Ex. 1049, 2:39–41.

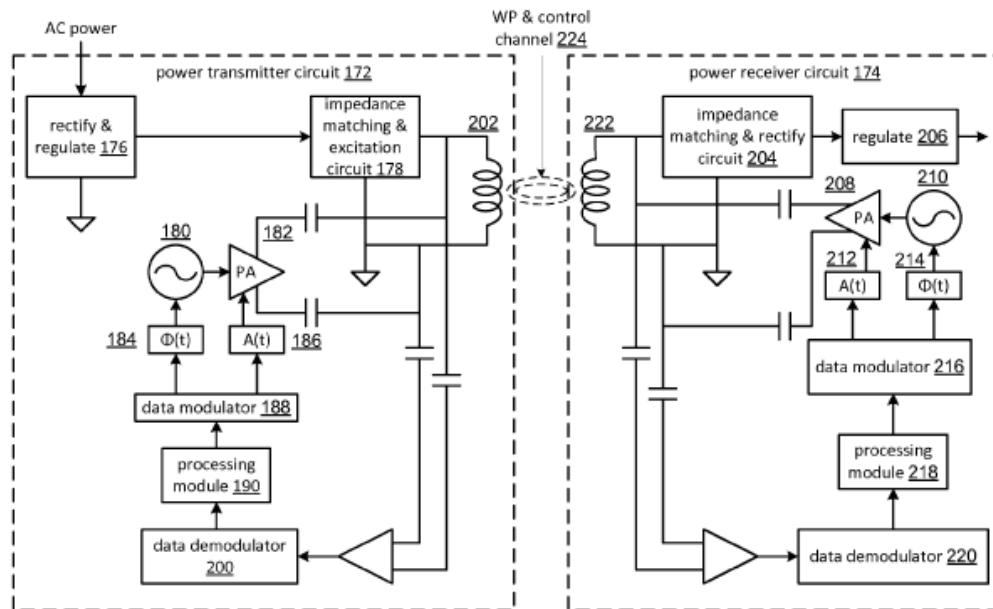


FIG. 8

Figure 8, above, shows power transmitter circuit 172 on the left and power receiver circuit 174 on the right. Power transmitter circuit 172 includes a rectify and regulate circuit 176, an impedance matching and excitation circuit 178, a processing module 190, an NFC modulator/demodulator 188, 200, and a share WP & NFC coil 202. *Id.* at 11:3–7. Power receiving circuit 174 includes an impedance matching and rectify circuit 204, a

regulate circuit 206, an NFC modulator/demodulator 216, 220, and an NFC coil 222. *Id.* at 11:7–10. Coil 202 of power receiver circuit 174 is proximal to coil 222 of power transmitter circuit 172 to receive the magnetic field created by coil 202 and to create an AC voltage therefrom. *Id.* at 11:24–27. “The device communicates with the WP TX unit via NFC (near field communication) using the shared WP & NFC coils 202, 222.” *Id.* at 11:33–35.

2. Analysis of Claim 17

Petitioner contends that the combination of Fells and Walley teaches dependent claim 17. Pet. 82–86. Specifically, Petitioner relies on Walley to more explicitly teach use of the coil for both power and information communications, i.e., acting as an antenna. Pet. 83–85 (citing Ex. 1049, 3:35–7:13, 8:8–22, 9:18–58, 11:1–56, 12:27–35, 16:42–18:23, Figs. 5, 8, 18; Ex. 1002 ¶¶ 277–279). For example, Figure 8 of Walley describes a shared wireless power (WP) and communication (NFC) coil. *See* Ex. 1049, 11:1–56, 11:33–35 (“The device communicates with the WP TX unit via NFC (near field communication) using the shared WP & NFC coils 202, 222”); Ex. 1002 ¶ 277).

As discussed above, we are persuaded that Fells alone teaches limitation 17. However, we are also persuaded by Petitioner’s contentions that a person of ordinary skill in the art would have been motivated to modify Fells’ system with similar features as those disclosed in Walley, particularly since Fells “contemplates configurations that communicate information concerning the transfer of power.” Pet. 85–86 (citing Ex. 1005, 12:21–23, 12:41–43, 10:55–59). We are also persuaded that a person of

ordinary skill in the art would have done so with a reasonable expectation of success. *Id.* at 86 (citing Ex. 1002 ¶ 279).

Accordingly, having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 17 would have been obvious over Fells and Walley.

I. Ground 5: Obviousness Over Fells and Ben-Shalom (Claim 18)

Petitioner contends that the combination of Fells and Ben-Shalom teaches dependent claim 18. Pet. 87–92. Patent Owner does not dispute Petitioner’s contentions. PO Resp. Having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 18 would have been obvious over Fells and Ben-Shalom. We agree with and adopt Petitioner’s analysis as our own.

1. Ben-Shalom (Ex. 1050)

Ben-Shalom is titled “System for Transferring Power Inductively to Items within a Container” and is generally directed to “an inductive power transmitter in the shape of a container that is capable of holding one or more electrical devices.” Ex. 1050, codes (54), (57). Ben-Shalom explains that the “system is operable to transfer power inductively to devices stowed within the container via inductive power receivers.” *Id.* at code (57).

2. Analysis of Claim 18

Claim 18 depends from claim 1 and recites “wherein the charger is incorporated into an enclosed volume for placement of the receiver in the power transfer position to receive inductive power.” Ex. 1001, 25:36–39.

Petitioner contends the combination of Fells and Ben-Shalom teaches the limitations in dependent claim 18. Pet. 87–92. In support, Petitioner

identifies certain passages and figures in Fells and Ben-Shalom and explains their significance with respect to the corresponding claim limitations. *Id.* We agree with and adopt Petitioner’s analysis as our own.

As set forth by Petitioner, Ben-Shalom discloses an inductive power transmitter in the shape of a container having a volume for receiving the power receiver in a position for receiving power inductively. Pet. 89–91 (citing Ex. 1050, Figs. 2–5, 7:17–37, 8:15–11:12; Ex. 1002 ¶ 287). We agree with Petitioner that it would have been obvious to a person of ordinary skill in the art to configure Fell’s charger to a “system with a housing having a container with an enclosed volume that allows placement of the mobile device’s receiver so that the power transfer position . . . is achieved for inductive power transfer.” *Id.* at 91 (citing Ex. 1002 ¶ 288). We are persuaded by Petitioner’s arguments that a person of ordinary skill in the art would have appreciated the benefits of doing so, i.e., to maximize the inductive transfer of power to the mobile device, as suggested by Ben Shalom. *Id.* (citing Ex. 1002 ¶¶ 288–289; Ex. 1050, Fig. 5, 10:1–5, 8:37–11:12, 7:18–37). We are also persuaded that a person of ordinary skill in the art would have had a reasonable expectation of success of implementing the modification. *Id.* at 92 (citing Ex. 1002 ¶ 289).

Accordingly, having considered the arguments and evidence before us, we find that Petitioner has shown, by a preponderance of the evidence, that claim 18 would have been obvious over Fells and Ben-Shalom.

J. Grounds 6, 7, 8, 9, and 10: Obviousness Over Fells, Stoner, and Nakamura (Claim 17); Obviousness Over Fells, Stoner, Nakamura, Silva, and Jung (Claim 8); Obviousness Over Fells, Stoner, Nakamura, and Sagoo (Claims 13, 15, 16); Obviousness Over Fells, Stoner, Nakamura, and Walley (Claim 17); Obviousness Over Fells, Stoner, Nakamura, and Ben-Shalom (Claim 18)

Petitioner contends claim 17 would have been obvious over Fells, Stoner, and Nakamura; that claim 8 would have been obvious over Fells, Stoner, Nakamura, Silva, and Jung; that claims 13, 15, and 16 would have been obvious over Fells, Stoner, Nakamura, and Sagoo; that claim 17 would have been obvious over Fells, Nakamura, and Walley; and that claim 18 would have been obvious over Fells, Stoner, Nakamura, and Ben-Shalom. Pet. 92–98. Petitioner’s contentions for these challenges track the contentions for Grounds 1–5, with the addition of combining Fells, Stoner, and Nakamura to teach limitation 1(k) in independent claim 1. *See id.* In addition, Petitioner alternatively relies on Stoner and Nakamura to teach limitations 1(e), 1(j), 1(l), to the extent not taught by Fells. *Id.* at 93–94. As discussed above, we have addressed and find persuasive Petitioner’s contentions regarding the Fells, Stoner, Nakamura combination for claim 1 in the Final Written Decision in IPR2023-01089. *See* IPR2023-01089, Paper 16, 37–41. Patent Owner does not dispute Petitioner’s contentions. *See* PO Resp.

Therefore, for the reasons discussed above, as well as the reasoning in our Final Written Decision in IPR2023-01089, Petitioner has shown, by a preponderance of the evidence that claim 17 would have been obvious over Fells, Stoner, and Nakamura; that claim 8 would have been obvious over Fells, Stoner, Nakamura, Silva, and Jung; that claims 13, 15, and 16 would

have been obvious over Fells, Stoner, Nakamura, and Sagoo; that claim 17 would have been obvious over Fells, Nakamura, and Walley; and that claim 18 would have been obvious over Fells, Stoner, Nakamura, and Ben-Shalom.

IV. CONCLUSION¹⁴

For the foregoing reasons, we are persuaded that Petitioner has established by a preponderance of the evidence that claims 8, 13, and 15–18 of the '349 patent are unpatentable.

Claims	35 U.S.C. §	Reference/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
17	103	Fells	17	
8	103	Fells, Silva, Jung	8	
13, 15, 16	103	Fells, Sagoo	13, 15, 16	
17	103	Fells, Walley	17	
18	103	Fells, Ben-Shalom	18	
17	103	Fells, Stoner, Nakamura	17	
8	103	Fells, Stoner, Nakamura, Silva, Jung	8	
13, 15,	103	Fells, Stoner,	13, 15, 16	

¹⁴ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this Decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

16		Nakamura, Sagoo		
17	103	Fells, Stoner, Nakamura, Walley	17	
18	103	Fells, Stoner, Nakamura, Ben- Shalom		
Overall Outcome			8, 13, 15–18	

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 8, 13, and 15–18 of the '349 patent have been shown to be unpatentable; and

FURTHER ORDERED that, because this is a final written decision, parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD,
Petitioner,

v.

MOJO MOBILITY INC.,
Patent Owner.

IPR2023-01090
Patent 11,292,349 B2

FITZPATRICK, *Administrative Patent Judge*, concurring.

I join the entirety of the majority's opinion. I write separately to address Petitioner's Ground 1 challenge to claim 17.

When we instituted this proceeding, I was of the view that the *Fintiv*¹ factors weighed in favor of discretionary denial. Inst. Dec. (Fitzpatrick, J., concurring at 2). However, I concurred in the majority's decision to institute, because I was of the additional view that the Petition met the compelling merits standard for Petitioner's Ground 1 challenge to claim

¹ *Apple Inc. v. Fintiv, Inc.*, No. IPR2020-00019, Paper 11 at 5–6 (Mar. 20, 2020) (precedential) (“*Fintiv*”).

17. *Id.*; see *Commscope Techs. LLC v. Dali Wireless Inc.*, No. IPR2022-01242, Paper 23 at 4–5 (Feb. 27, 2023) (precedential) (“*Commscope*”) (“In circumstances where . . . the Board’s analysis of *Fintiv* factors 1–5 favors denial of institution, the Board shall then assess compelling merits.”).

“[T]he compelling merits standard is a higher standard than the standard for institution set by statute.” *Commscope* at 3 (referring to 35 U.S.C. § 314(a)). “[W]hen determining whether there is a compelling unpatentability challenge, the Board evaluates whether the Petition presents challenges in which 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.* (emphasis added).

This is the standard I previously applied to Petitioner’s Ground 1 challenge to claim 17. Inst. Dec. (Fitzpatrick, J., concurring at 2). During trial, all of Petitioner’s challenges went unrebutted, including Petitioner’s Ground 1 challenge to claim 17. See PO Resp. 1 (Patent Owner “elects to not proffer additional argument on the papers or through any hearings that may occur in this proceeding.”). Thus, because I previously determined Petitioner’s Ground 1 challenge to claim 17 presented compelling merits and because Patent Owner did not rebut that challenge during trial, I conclude that Petitioner has necessarily met its burden of proving claim 17 unpatentable by a preponderance of the evidence.

IPR2023-01090
Patent 11,292,349 B2

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