

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.
Petitioner

v.

MOJO MOBILITY INC.
Patent Owner

Case No. IPR2023-01089
Patent No. 11,292,349

PATENT OWNER'S PRELIMINARY RESPONSE

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Exhibit	Description
2001	Samsung's District Court Invalidity Contentions
2002	<i>Mojo Mobility Inc v. Samsung Electronics Co., Ltd, et al.</i> , Case No. 2-22-cv-00398, Dkt. 41 (Mojo's Response to Samsung's District Court Motion to Stay Pending IPR) (E.D. Tex. Aug. 11, 2023).
2003	<i>Mojo Mobility Inc v. Samsung Electronics Co., Ltd, et al.</i> , Case No. 2-22-cv-00398, Dkt. 1 (Complaint) (E.D. Tex. Oct. 7, 2022).
2004	Collection of “Proximate” Dictionary Definitions

Mojo Mobility Inc. (“Patent Owner” or “Mojo”) submits this preliminary response in accordance with 35 U.S.C. § 313 and 37 C.F.R. § 42.107, responding to the Petition for *Inter Partes* Review (“Petition”) of claims 1, 4, 5, 7, 10-12, 26 of U.S. Patent No. 11,292,349 (the “’349 Patent”) filed by Samsung Electronics Co., Ltd. (“Petitioner” or “Samsung”).

I. INTRODUCTION

The Board should deny institution in its discretion under 35 U.S.C. § 314(a) for at least any one of the following reasons:

First, the petition should be denied on *Fintiv* grounds in light of the underlying district court litigation. Samsung has filed *eighteen* IPR petitions challenging the validity of the seven patents at issue in the underlying district court case.¹ The eighteen IPR petitions contain in total 72 grounds and 34 prior art references. (*Id.*) Samsung has asserted all these invalidity grounds (and more) in the district court

¹ See, e.g., (1) IPR2023-01086, (2) IPR2023-01087, (3) IPR2023-01088, (4) IPR2023-01089 (this IPR), (5) IPR2023-01090, (6) IPR2023-01091, (7) IPR2023-01092, (8) IPR2023-01093, (9) IPR2023-01101, (10) IPR2023-01102, (11) IPR2023-01098, (12) IPR2023-01099, (13) IPR2023-01100, (14) IPR2023-01124, (15) IPR2023-01094, (16) IPR2023-01095, (17) IPR2023-01096, (18) IPR2023-01097.

case. By way of this and it seventeen other petitions, Samsung is seeking to convert what is a single proceeding—the district court case—into *eighteen* PTAB proceedings. Moreover, the district court case (which most likely will not be stayed) will hold trial five months before any Final Written Decision would be issued on the petitions. Accordingly, institution of this Petition and the seventeen other Petitions goes against the very principles and premise of the American Invents Act, as it would multiply and complicate the proceedings, rather than simplify matters.

Second, in Ground 1 the Petition fails to meet its burden of showing each and every claim element is present in (or obvious in view of) the relied upon reference—Fells. The Petition fails to show that Fells teaches or suggests multiple claim elements because, for example, in contrast to the Challenged Claims, (1) Fells teaches a receiver solenoid placed on a “power transfer surface” that is *displaced from* its charger coils by ferrite cores; (2) the ferrite cores also *displace* the underlying magnetic layer from the charger coils; (3) Fells does not teach a “means for positioning” which requires a “more precise alignment between the charger and receiver coils” to meet this claim limitation when properly construed; and (4) the positional freedom and geometric aspects of Fells teach away from the claimed invention.

Third, the Petition fails as to Ground 3 for the same reasons that the Petition fails as to Ground 1. With Ground 3 the Petition seeks to combine Stoner and

Nakamura with Fells, but for purposes of the “means for positioning” requirement of the Challenged Claims. Thus, Ground 3 does not in any way solve the Petition’s problems in Fells of its ferrite cores displacing the power transfer surface and the magnetic under layer from the charger coils, contrary to the Challenged Claims. Moreover, Ground 3 is also insufficient as to the “means for positioning” requirement because the Petition fails to show that a person of skill in the art (“POSITA”) would have combined Fells with Stoner and Nakamura in this regard. A POSITA would not have been motivated to make such a combination, because, for example: (1) Fells is directed to a system with *positional freedom* whereas Stoner and Nakamura are directed towards *specific position* chargers (thus they are counter to one another); and (2) there exist geometric pairing differences between the chargers / receivers of Fells and that of Stoner and Nakamura that go against their combination with respect to the “means for positioning” requirement. The Petition fails to address any of this and hence is deficient as to Ground 3.

Moreover, Grounds 2 and 4 depend on Grounds 1 and 3, and thus Grounds 2 and 4 are similarly deficient.

For any or all of these reasons, the Petition should be denied.

II. BACKGROUND

A. The Petition Grounds

The Petition includes the following four grounds against the shown claims (“the Challenged Claims”) of which claim 1 and 26 are independent claims and the others are dependent claims, dependent on claim 1.

Ground	References	Claims
1	Fells	1, 5, 7, 10-12, 26
2	Fells, Jung	4
3	Fells, Stoner and Nakamura	1, 5, 7, 10-12, 26
4	Fells, Stoner, Nakamura and Jung	4

Grounds 2 and 4 are directed solely against dependent claims and are premised on Grounds 1 and 3 with respect to independent claim 1. Thus, Grounds 2 and 4 depend on Grounds 1 and 3, such that if Ground 1 is deficient, so is Ground 2, and if Ground 3 is deficient, so is Ground 4.

B. Independent Claims 1 and 26 of the '349 Patent

Independent claims 1 and 26 of the '349 Patent, upon which all Grounds depend, are set forth below with the language/limitations discussed below shown in emphasis.

Claim 1:

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

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

[1c] *a printed circuit board having a charger coil, wherein the charger coil has a substantially planar charger surface²;*

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

[1e] 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

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

[1g] **a solenoid**, wherein *the solenoid includes:*

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

[1i] 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

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

[1k] wherein:

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;

[1l] 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

² Noting emphasis added throughout response unless otherwise noted.

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;

[1m] *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;*

[1n] 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,

[1o] 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;

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

[1q] *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.*

Claim 26:

[26a] A charger for inductive charging, the charger comprising:

[26b] *a printed circuit board having a charger coil, wherein the charger coil has a substantially planar charger surface;*

[26c] *a substantially planar magnetic layer under the charger coil opposite the charger surface;*

[26d] 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

[26e] **means for positioning a receiver in a power transfer position, which is proximate to the charger surface, to inductively transfer power to the receiver, wherein the receiver is included in a mobile device to inductively receive power for the mobile device,** and the receiver includes:

[26f] ***a solenoid***, wherein *the solenoid includes:*

[26g] ***a magnetic core*** having a relative magnetic permeability exceeding 1 and having first and second ends; and

[26h] 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

[26i] a receiver electronic circuit, wherein the receiver electronic circuit includes a resonant capacitor and a rectifier; and

[26j] wherein:

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, which includes 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;

[26k] ***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;***

[26l] the multiple substantially 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,

[26m] the charger coil area is larger than an area of the first end and larger than the area of the second end of the magnetic core of the solenoid;

[26n] the magnetic layer of the charger extends beyond the charger coil area; and

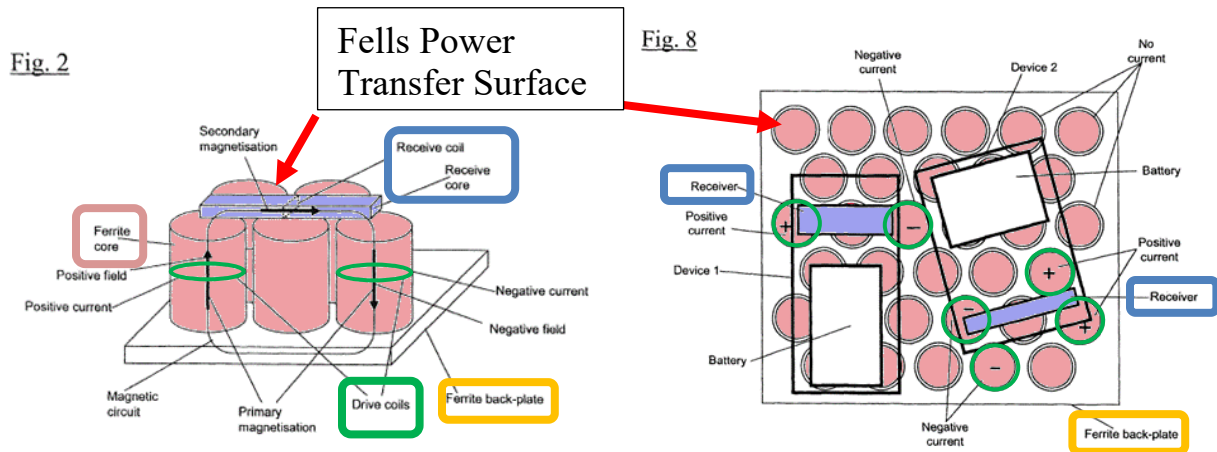
[26o] *when the receiver is in the power transfer position, the first end of the magnetic core is located proximate to the charger coil area above the charger surface* to receive magnetic flux from the charger coil area and guide the magnetic flux in a closed magnetic loop from the charger coil area through the solenoid and return through the charger magnetic layer to the charger coil area to form the closed magnetic loop.

C. Alleged Prior Art Asserted Against The Challenged Independent Claims

1. Fells – U.S. Pat. No. 8,587,154

Fells describes “an inductive power transfer system including a primary unit...the primary unit may include a *power transfer surface* and *more than two field generators* each operable to generate an electromagnetic field.” (Ex. 1005, Abstract). As shown below in Fells Figs. 2 and 8, Fells contemplated and described a system having multiple field generators in any given embodiment, and further contemplated the charging of multiple devices at once, though with “fewer than all of the field generators [being] active simultaneously.” (Ex. 1005, Abstract). Each field generator (labeled as drive coils in Fig. 2 below) is described to be coupled to a cylindrical (or other shape) ferrite core (colorized below in red in Figs. 2 and 8) for transfer of the magnetic flux from the field generator to the *power transfer*

surface; each active field generator is shown below in Figs. 2 and 8 by a colored green circle. A solenoid receiver coil (consisting of a magnetic core and Litz wire winding, colored below in blue in Figs. 2 and 8) is placed on the **power transfer surface** to receive inductive power as shown below in Figs. 2 and 8. (Ex. 1005, Fells, Abstract (“the primary unit may include a power transfer surface and more than two field generators each operable to generate an electromagnetic field”)).



The field generators of Fells, shown in the figures as “drive coils,” are designed for positioning freedom of multiple devices on a power transfer surface area dimensionally large enough to accommodate multiple devices. Fells further teaches that the ferrite cores extend between the field generators and the power transfer surface (see Ex. 1005, Fells, Figs. 1-3, 15, and corresponding descriptions).

2. Stoner – U.S. Pat. No. 8,912,686

Stoner describes the following system:

A wireless power system that may align a portable electronic device with an inductive wireless power supply. The induction coils used for transferring power wirelessly may be used as DC electromagnets to align the portable electronic device with the inductive wireless power supply. A DC current may be supplied to the primary coil and to the secondary coil to generate DC electromagnetic fields and attractive force between the primary and secondary coils. This attractive force may be used for alignment.

The present invention provides *a self-aligning inductive wireless power system* and method in which a wireless induction coil and *an external DC electromagnetic field may be used to attract the wireless induction coil toward a desired location for more efficient wireless power transfer*.

(Ex. 1011, Abstract and 2:60-64) (emphasis added). Thus, Stoner describes a system that relates to self-alignment and other magnetic attraction-based alignment systems of planar charging coils between a transmitting device and a receiving device.

3. Nakamura – U.S. Pub. No. 2005/0068019

The Nakamura publication is entitled, “Power Supply System,” and generally discusses a wireless charging system having selectable “small,” “medium,” and “large” power output settings. (Ex. 1010, FIGS. 3, 11-12, [0083]). Nakamura further describes, “A power transmission output is adjusted at one of three levels of large, medium, and small depending on the recognized power. A result of the determination from the power amount determination circuit 34 is transmitted to the LED display circuit 31 and the power change-over circuit 32 so as to perform the

process described below in response to one of the large, medium, and small levels as the result of the determination.” *Id.* The apparent goal of Nakamura was thus for “a single power transmission apparatus [to] supply power to different types of electronic equipment.” (Ex. 1010, [0083]).

D. Claim Construction

Petitioner argues that the sole term in need of construction is claim element [1k] and the corresponding claim element [26e].³ Claim element [1k] specifies “*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.*” (Claim element [26e] has corresponding language.) With respect to this claim term, Petitioner states that this claim term should be construed as a means-plus-function term and makes the following statement:

The corresponding structure encompasses that described in the specification and dependent claims 24-25 and/or equivalents thereof. (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 or antennas. These can include **visual, physical, or magnetic means** to assist the user in alignment of parts.”), 25:56-57- 63 (claim 24: “the means for position includes **one or more magnets** to position the receiver in the power transfer position”, claim

³ Patent Owner urges the same reasoning for construing claim element [1k] and similarly situated claim element [26e].

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.”.) (Ex. 1002, ¶60.)

(Pet. at 4-6). Though Patent Owner does not contest the Petitioner’s position on this term for the purposes of this preliminary response, to ease the Board’s understanding of this term, Patent Owner suggests the following construction that is precisely consistent with the ’349 Patent specification and claims.

Function – “[T]o provide more precise alignment between the charger and receiver coils to position [the/a] receiver in a power transfer position, proximate to the charger surface, to inductively transfer power to the receiver [of the first mobile device].”

Structure – “[V]isual, physical, or magnetic means to assist the user in alignment of parts.”

This construction is supported by the same specification section referenced by Petitioner (see above): (Ex. 1001, ’349 Patent, 14:35-38 (“[T]he charger and or receiver can include means to provide *more precise alignment* between the charger and receiver coils or antennas. These can include visual, physical, or magnetic means to assist the user in alignment of parts.” (emphasis added))).

Moreover, a discussion of the proper plain and ordinary meaning of the terms “proximate” and “opposite” in the claims is discussed below.

Additionally, claim construction is relevant with regard to claim element [1c]:

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

The proper understanding of this claim element, based on the claim language itself, is that the printed circuit board must include a charger coil and that the charger coil “has” and therefore defines “a substantially planar charger surface.”

Patent Owner further reserves the right to argue for different definitions in district court or other proceedings, as well as later in this proceeding should this Petition be instituted.

E. Person of Skill in the Art

For the purposes of this Preliminary Response, Patent Owner does not challenge Petitioner’s definition of a POSITA (Pet. 3-4), but Patent Owner reserves the right to argue for a different definition should there be institution.

III. ARGUMENT

A. The Petition Should Be Denied Under *Fintiv* As The Issues Presented By This Petition And Petitioner’s Seventeen Other Petitions Will Be Resolved First In The Underlying District Court Case And Institution Of This Petition And The Other Seventeen Petitions Would Greatly Multiply The Proceedings, Rather Than Simplify Matters

Petitioner has taken a single district court litigation and sought to turn it into eighteen proceedings before this Board, which would issue final written decisions

months after the scheduled trial in the single district court case. The Board should use its discretion to deny institution of Petitioner's eighteen IPR petitions.

As Director Vidal has pointed out, "Congress designed the America Invents Act (AIA) post-grant proceedings 'to establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs.'" (Ex. 1022 at 1 (citing H.R. Rep. No. 112-98, pt. 1, at 40 (2011), 2011 U.S.C.C.A.N. 67, 69; see S. Rep. No. 110-259, at 20 (2008))). Instituting Petitioner's eighteen IPR petitions is directly contrary this goal. This is because "[p]arallel district court and AIA proceedings involving the same parties and invalidity challenges can increase, rather than limit, litigation costs." (*Id.* at 1.)

Here, instituting the eighteen IPR petitions, or even a subset, which will have the same outcome—upholding the validity or invalidating the patents—as the *single* district court case will dramatically increase the litigation costs of the parties. Notably, in district court, Petitioner asserts the exact same references (*see* Ex. 2001 (Petitioner's district court invalidity contentions) at 17) as it does in this petition, in the other IPR petition against the '349 Patent, and in the other related petitions. Further, in district court, Petitioner asserts other references and invalidity grounds that are not included in the related IPR petitions. In short, the single district court case will cover all of the invalidity grounds raised across the *eighteen* IPR petitions

as well as additional invalidity grounds. It is a fallacy to consider Petitioner's IPR petitions as streamlining the dispute between the parties.

Under 35 U.S.C § 314(a), the Board has discretion to deny a petition based on the status of a related litigation. The Board should exercise that discretion here and deny institution. The Board considers six factors to determine whether efficiency, fairness, and the merits support denial:

Factor 1: whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;

Factor 2: proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;

Factor 3: investment in the parallel proceeding by the court and the parties;

Factor 4: overlap between issues raised in the petition and the parallel proceeding;

Factor 5: whether the petitioner and the defendant in the parallel proceeding are the same parties;

Factor 6: other circumstances that impact the Board's exercise of discretion, including the merits.

Apple v. Fintiv, IPR2020-00019, Paper 11 at 5-6 (PTAB March 20, 2020) (precedential).

As discussed below, each of the six *Fintiv* factors supports the Board denying institution. The current advanced state of the parallel district court case, as well as the lack of a granted stay, favors denial of the Petition. By the time the Board would issue an institution decision across all eighteen IPR petitions (expected February

2024), claim construction will have been briefed and argued to the district court. Moreover, fact discovery has been underway and is set for completion in March 2024—weeks following the final institution decisions. Opening expert reports will be exchanged in that same month. The district court trial is scheduled for August 2024, more than five months *before* the earliest of the Final Written Decisions for the eighteen IPR petitions would be issued and six months before all Final Written Decisions would be issued. (*See* Ex. 1024, EDTX Scheduling Order). As explained below, the district court is unlikely to stay a trial that is already scheduled to be complete well before a final written decision on any petition would be issued by the Board.

Petitioner’s proposed stipulation does not meaningfully streamline the issues. Petitioner merely offers to drop from its invalidity assertions in district court only those grounds that are instituted by the Board. This would mean that *even if all eighteen IPRs were to be instituted*, Petitioner would still assert invalidity grounds based on §§ 102 and 103 in district court that would not and could not be addressed by the Board. And those invalidity grounds in district court would be tried before a jury months before any final written decision would issue. Not only does Petitioner’s proposal not alleviate the duplicative efforts in assessing the invalidity of the patents, it increases the likelihood of inconsistent results across the proceedings. There is no argument that can be offered that supports instituting eighteen IPRs—that would

issue narrow invalidity rulings on 35 U.S.C. §§ 102/103 months after the district court trial—rather than letting the parties resolve all these issues in a single, quicker district court case that is already scheduled to be complete in less than a year. Accordingly, the Board should deny institution to maintain the goals of efficiency and efficacy. *See General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 16-17 (PTAB Sept. 6, 2017).

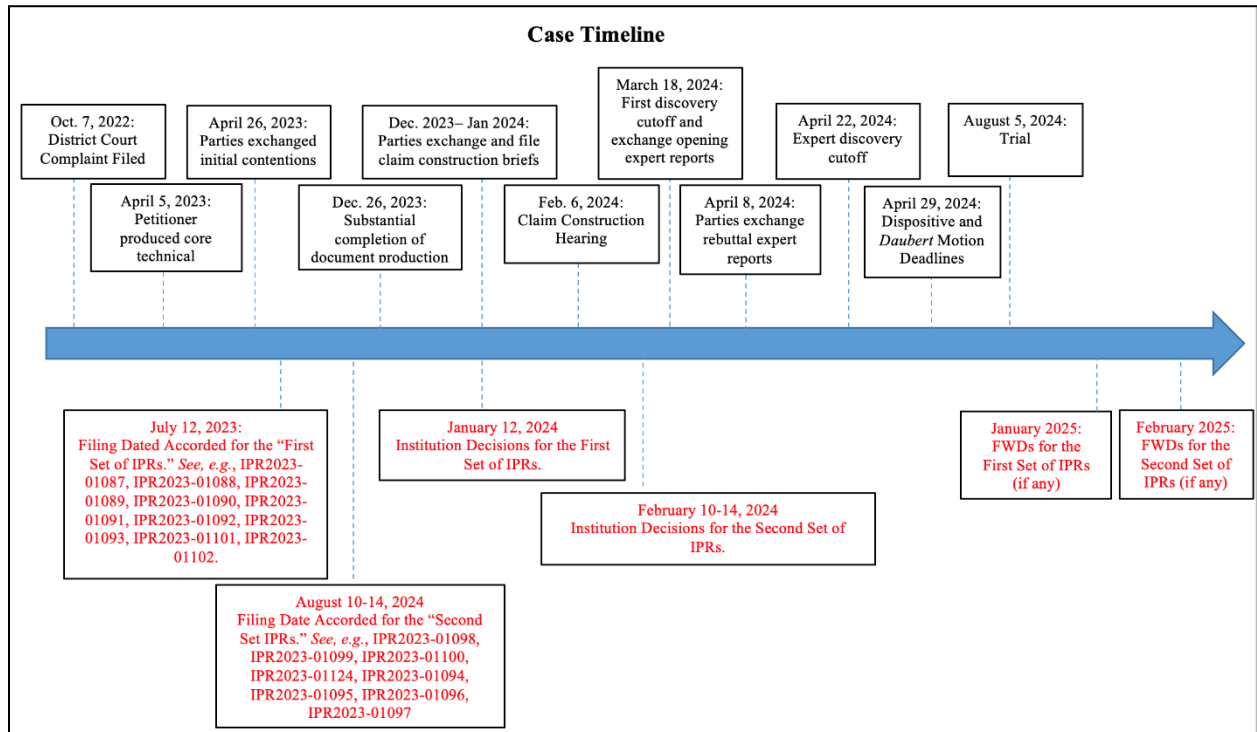
Factor 1: the district court case has not been stayed nor is it likely to be stayed even were this petition instituted. Petitioner states that this factor is neutral. (Pet. at 92.) However, Petitioner has failed to consider the totality of the evidence. This Board has previously held that “***in the absence of specific evidence***, we will not attempt to predict how the district court in the related district court litigation will proceed because the court may determine whether or not to stay any individual case.” *See Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 7 (PTAB June 16, 2020) (informative) (emphasis added). Here, ***all*** the evidence points to a stay not being entered in the district court litigation pre or post institution.

Petitioner has filed a motion to stay the district court litigation which has not been ruled on, but will almost certainly be denied pre-institution. *See* Ex. 2002 at 1-2 (Patent Owner showing that the Eastern District of Texas ***universally*** denies motion to stay pre-institution). Moreover, even if instituted, the timing and advanced

stage of litigation indicates that Judge Gilstrap is highly likely to deny a motion to stay. *See e.g., MyPort, Inc. v. Samsung Elecs. Co., Ltd.*, Case No. 2:22-CV-00114-JRG, Dkt. 73 at 4-5 (E.D. Tex. June 13, 2023) (denying a motion to stay when trial was scheduled and “the PTAB [final written] decision is not due until over two months after jury trial is set to begin.”); *Solas OLED Ltd. v. Samsung Display Co., Ltd.*, Case No. 2:19-CV-00152-JRG, Dkt. 133 at 3-4 (E.D. Tex. July 17, 2020) (denying a motion to stay despite the Board’s institution on the patents-in-suit largely because “discovery is complete[] and trial is only a few months away” when PTAB final written decisions would have been issued months after the scheduled trial); *Oyster Optics, LLC, v. Infinera Corp.*, Case No. 2:19-CV-00257-JRG, Dkt. 87 at 4-5 (E.D. Tex. July 17, 2020) (denying a motion to stay although the asserted claims were instituted because claim construction briefing was finished and “[f]act discovery is closing in about a month and trial is only six months away.”).

Here, the timing demonstrates that Judge Gilstrap is likely to deny a motion to stay. As shown in the case timeline below, the decision on institution across the ***eighteen*** IPRs is not expected until January and February 2024. By that time, the parties will have had the *Markman* hearing and substantial document production will have occurred. (Ex. 1024 at 3). Fact discovery is set to be completed only a month later only March 18, 2024. (*Id.*). Notably, the scheduled trial date (August 5, 2024) is set only six months after the institution decision of the IPRs. (*Id.* at 1). Finally, a

Final Written Decision (if any) across the eighteen IPRs would be handed down roughly five to six months after the trial in the district court case—one single proceeding that will address all the issues in the eighteen IPRs. Thus, Factor 1 heavily favors denial.

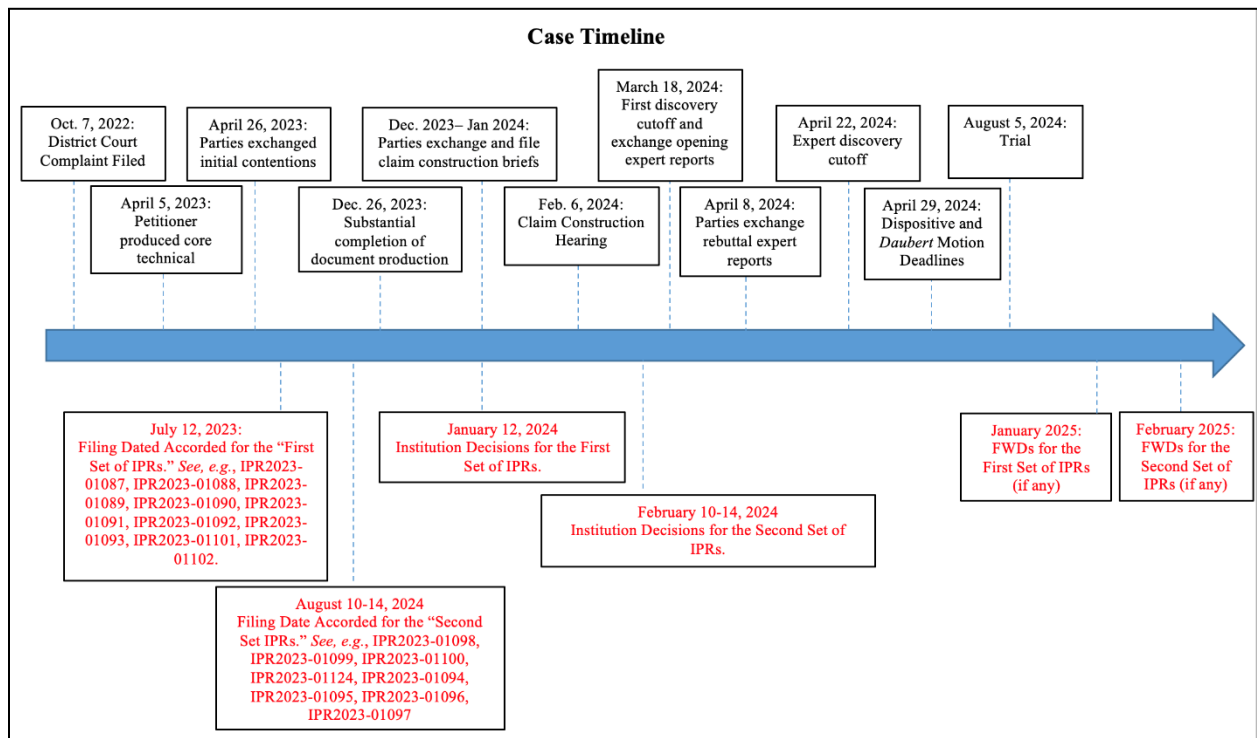


Factor 2: the single district court case will resolve all of the issues presented in the eighteen petitions (and more) months before any final written decision. The Board generally denies institution when the trial date is months before the projected statutory deadline of the PTAB’s final written decision (FWD). *Fintiv*, IPR2020-00019, Paper 11 at 9) (“If the court’s trial date is earlier than the projected statutory deadline, the Board generally has weighed this fact in favor of exercising authority to deny institution.”). Trial is set for August 5, 2024, which would be **five to six**

months before the earliest expected date of a FWD (January and February 2025).

This factor weighs heavily in favor of denial. The Board regularly finds a period of time less than seven months between the expected date of the FWD and trial supports denial. *See e.g., id.* (5-6 months based on the time-to-trial evidence); *Satco Products, Inc. v. The Regents of the University of California*, IPR2021-00794, Paper 14 at 19 (PTAB Nov. 10, 2021) (five months); *Maxlite, Inc. v. Jiaxing Super Lighting Electric Appliance Co., Ltd.*, IPR2020-00208, Paper 32 at 5 (PTAB Oct. 12, 2021) (four months); *Stanley Black & Decker, Inc., et al. v. Zircon Corp.*, IPR2020-01572, Paper 10 at 12 (PTAB April 19, 2021) (three months); *Next Caller, Inc. v. TrustID, Inc.*, IPR2019-00961, Paper 10 at 14-15 (PTAB Oct. 16, 2019) (three months); *E-One, Inc. v. Oshkosh Corp.*, IPR2019-00161, Paper 16 at 6 (PTAB May 15, 2019) (one month).

Factor 3: there has and continues to be significant investment by the parties in the district court litigation. The Board has used its discretion to deny institution when, as here, there is significant investment in the parallel district court proceeding. As shown in the case timeline below, the district court proceeding has been pending since October of 2022. The Parties have prepared and exchanged infringement and invalidity contentions, presented initial disclosures, and are in the midst of substantial fact discovery. In fact, by the time the Board would even issue an institution decision, claim construction will have been briefed and argued.



Additionally, Petitioner did not file its Petitions expeditiously. Petitioner waited many months after the district court complaint was filed to submit its Petitions. *Compare Verizon Business Network Services, Inc. v. Huawei Techs. Co.*, IPR2020-01141, Paper 12 at 12 (PTAB Jan. 14, 2021) (“We credit Petitioner’s diligence in filing the Petition in this case within a short time (less than three months) after being served infringement contentions in the parallel case.”), *with* Ex. 2003 (the district court complaint was filed in October and Petitioner filed its first petition almost nine months later in June). Accordingly, the parties have expended a significant amount of time and resources related to the district court proceeding, which greatly weighs in favor of denying institution.

Factor 4: there is significant overlap between issues raised in the petition and in the parallel proceeding. “[I]f the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, th[at] fact has favored denial.” *Fintiv*, IPR2020-00019, Paper 11 at 12. Petitioner challenges the same claims in its petition—and across the 18 Petitions—that it does in its invalidity contentions at the district court. *See* Ex. 2001. In fact, Petitioner relies on the same principal references in the Petition as it does in the parallel litigation. *See* generally Ex. 2001 at 13-18. Thus, the Petition includes substantial overlap with the claims and evidence asserted in the parallel litigation.

In addition, Petitioner’s narrow stipulation will not mitigate the overlap between the district court and the Board. Petitioner could have included a broader stipulation that might better address the duplicative efforts, and adhere to the purpose of *inter partes* review as an alternative to district court litigation. *See, e.g., Sand Revolution II*, Paper 24 at 12 n.5 (“Petitioner stipulates only that it will not pursue, in district court, the ‘same grounds’ presented in the Petition . . . Petitioner could have stipulated that it would not pursue any ground raised or that *could have been reasonably raised in an IPR.*”) (emphasis added); *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (PTAB Dec. 1, 2020) (precedential) (“Importantly, Petitioner broadly stipulates to not pursue ‘any ground raised or that could have been reasonably raised.’”).

Here, Petitioner’s stipulation “that, if the IPR is instituted, Petitioner will not pursue the IPR grounds in the district court litigation” falls short of a *Sotera* stipulation. In fact, Petitioner’s stipulation is superficial as it does not even meet the IPR estoppel that would arise after an IPR is instituted and a final written decision is issued. *See* 35 U.S.C. § 315(e)(2) (“The petitioner in an *inter partes* review of a claim in a patent under this chapter that results in a final written decision under section . . . may not assert either in a civil action . . . that the claim is invalid on any ground that the petitioner raised ***or reasonably could have raised*** during that *inter partes* review.”) (emphasis added).

Petitioner’s weak stipulation actually allows it to circumvent estoppel and get two bites at the invalidity apple. It would permit Petitioner to maintain in district court those invalidity arguments that are not presented in the eighteen IPR petitions. Those invalidity arguments would then be raised during trial in August 2024. If Petitioner were to fail at trial, it would still have, as backup, the Final Written Decision to be issued by the Board, in early 2025. Petitioner’s stipulation is antithetical to a *Sotera* stipulation. Thus, this factor weighs in favor of denying the Petition.

Factor 5: the petitioner and the defendant in the parallel proceeding are the same party. Factor 5 weighs in favor of denial because both Parties to this proceeding are the same parties in the related district court litigation. *Fintiv*,

IPR2020-00019, Paper 11 at 15 (“Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial.”). Petitioner does not contest this.

Factor 6: the merits of the Petition are weak. The final factor weighs in favor of denial because there is no “compelling challenge” of invalidity on the merits of the Petition. Interim Procedure, 4 (“compelling, meritorious challenges will be allowed to proceed at the PTAB even where district court litigation is proceeding in parallel”). As shown in the following sections, Petitioner’s arguments on the merits do not meet the high standard required of an invalidity challenge. *Id.* (“Compelling, meritorious challenges are those 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.”); *see also Vector Flow, Inc. v. HID Glob. Corp.*, IPR2023-00353, Paper 8 at 23-24 (PTAB July 27, 2023) (same).

B. The Petition Fails to Establish A Basis To Institute Ground 1

As explained below, Samsung has failed to show that Fells (Ground 1), teaches or renders obvious every limitation of the Challenged Claims (claims 1, 5, 7, 10-12, and 26).

1. The Petition fails to meet its burden of showing that Fells teaches or suggests each and every element of the challenged claims

Fells does not teach or suggest at least claim elements [1c], [1d], [1k], and [1q] as will be explained in detail below.⁴

Fells

Fells is primarily directed towards “an inductive power transfer system including a primary unit...the primary unit may include a power transfer surface and more than two field generators each operable to generate an electromagnetic field.” (Ex. 1005, Abstract). As shown below in Fells Figs. 1 and 8, Fells contemplated and described a system that had multiple “field generators” with each “field generator” further including a centralized ferrite core and with the majority of Fells embodiments also including wire wrapped (drive coils) around the ferrite cores. (See, e.g. Ex. 1005, Fells, Figs. 1-2 and corresponding descriptions). In other embodiments of Fells, such as those shown and described in regards to Fells Figs. 16 and 17, planar printed circuit board coils are shown as the field generators. Fells contemplated and described the charging of multiple devices placed in proximity to

⁴ Patent Owner urges each of the same arguments that are made in regard to independent claim 1 to similarly situated independent claim 26 and to each challenged dependent claim, all of which depend from claim 1.

a “*power transfer surface*” at the top of the ferrite cores at once. (Ex. 1005, Abstract).

Thus, Fells purports to be a multi-device charger designed for the purpose of having positioning freedom for multiple devices.

Fig. 8

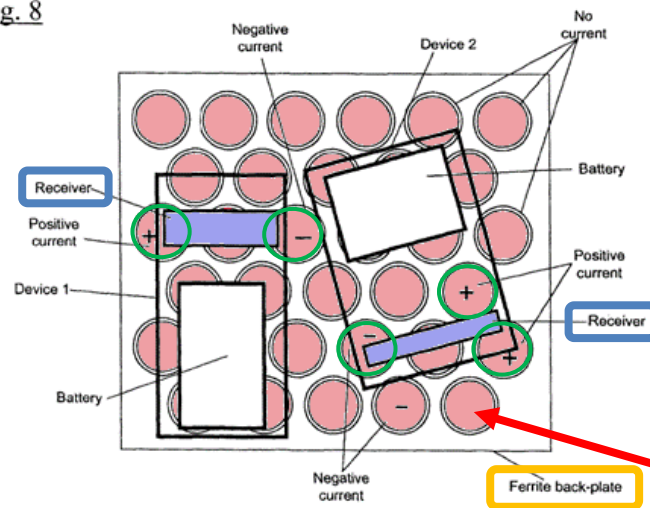
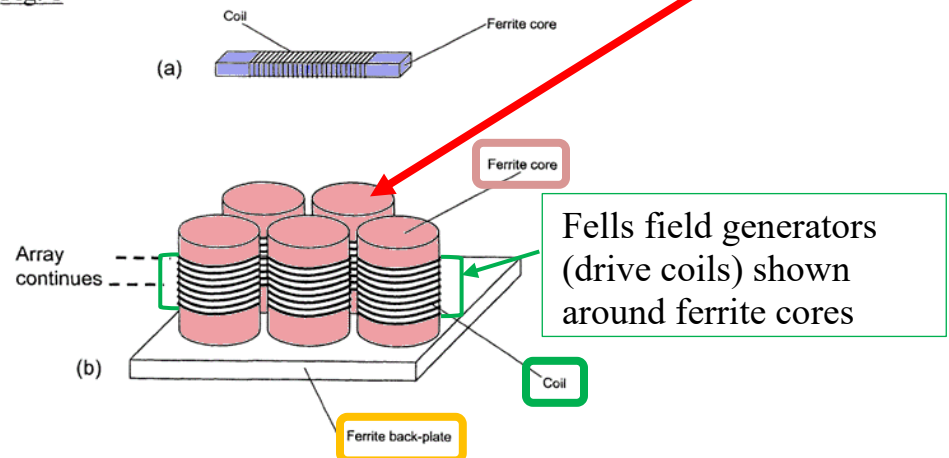


Fig. 1



Annotated Fells Figs. 1 and 8

Red – Ferrite Cores, **Blue** – Receivers, **Green** – Field Generators,

Orange – Ferrite Back Plates

Petitioner ignores that in Fells, ferrite cores are placed at the center of each field generator (whether wire wound coils or planar PCB), as shown above in Fig. 8, and generally throughout the various embodiments described by Fells. A POSITA would understand that the ferrite cores of Fells are positioned for the purpose of coupling the flux from the field generator to the power transfer surface and respective receiver solenoids.

'349 Patent Claims

The following claim elements are relevant to differentiating Fells:

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

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

...

[1k] wherein:

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;

...

[1m] 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**;

...

[1q] 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.

a. Fells does not teach claim element [1c]

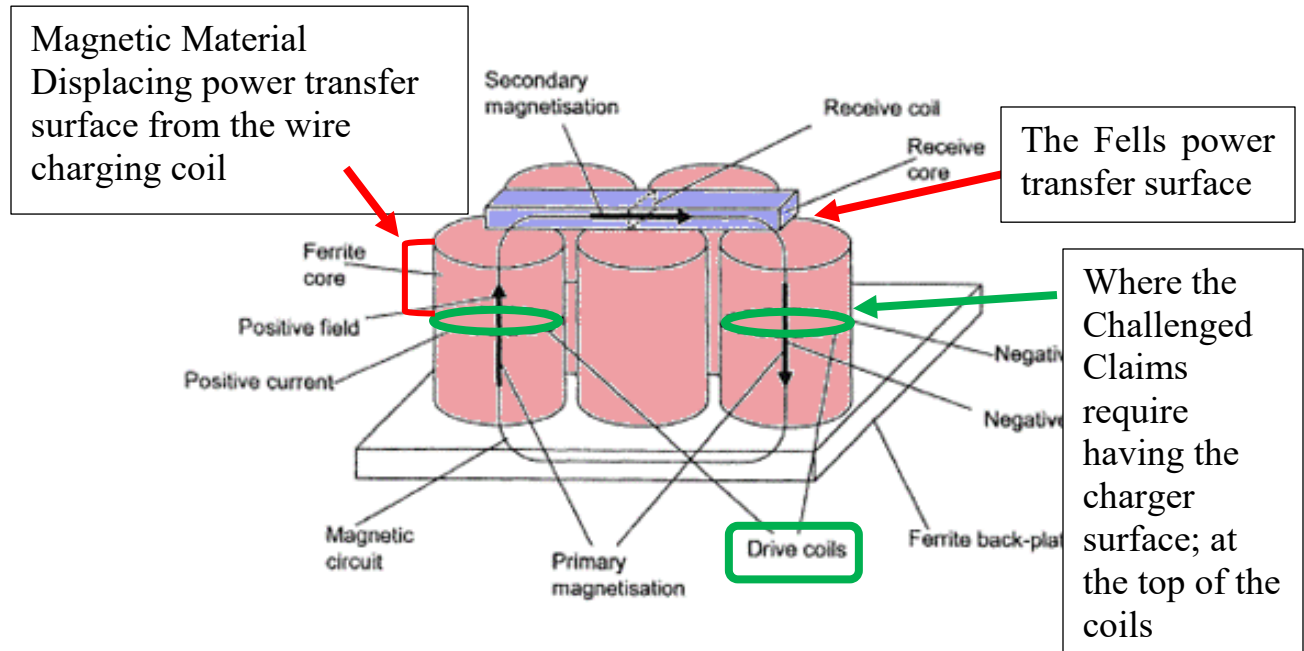
As an initial matter, Fells does not teach or suggest claim element [1c] (emphasis added):

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

This claim element requires that the printed circuit board include a charger coil and that **the charger coil “has” and therefore defines “a substantially planar charger surface.”** The *power transfer surface*⁵ of Fells, in contrast from that of the claimed invention, is displaced from the charging coils of Fells by at least some portion of the “ferrite core” material shown below and throughout the Fells reference. The colorized and annotated Fig. 2 of Fells below best illustrates this.

⁵ Noting that the “power transfer surface” of Fells is what Petitioner analogizes to the “charger surface” of the Challenged Claims. (See *e.g.* Pet. at 12 and 33).

Fig. 2



Patent Owner also recognizes that while the Petition relies on Fells Figs. 1, 2, 4, 6, 7, 8, 18, and 23, the Petition also refers to Figures 16 and 17 (shown below) when discussing embodiments of Fells that include planar PCB coil field generators. (See *e.g.* Pet. at 8, 12-17, 22-24).

Fig. 16

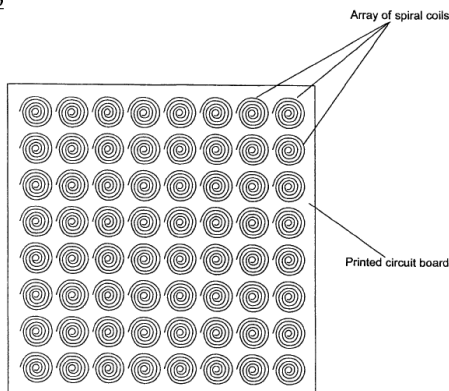
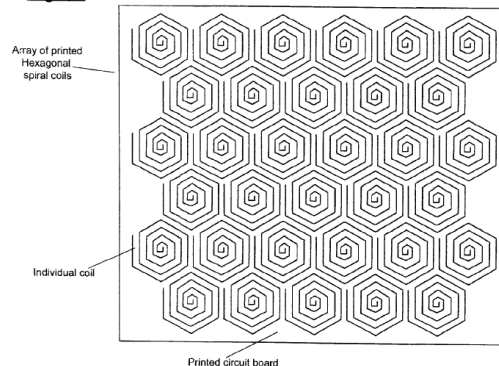


Fig. 17



But Figs. 16 and 17 are simply top-down views, in similarity to the top-down views shown in Figs. 3 and 8, and are described by Fells as “PCB implementations” of the system Fells teaches. (*See* Ex. 1005 10:26-27 and 10:35). Thus, Fells indicates that these implementations would be configured with the same magnetic material that displaces the charging surface from the charger coils, as each of the other embodiments. Most significantly, the Petition shows *no* embodiment in Fells without intervening magnetic material displacing the charging surface from the charger coils.

Thus, because the power transfer surface of Fells is displaced from its charging coils by magnetic material / ferrite cores, Fells does not teach or suggest claim element [1c] which does not allow such displacement of the claimed “charger surface” from the charger coil by magnetic material.

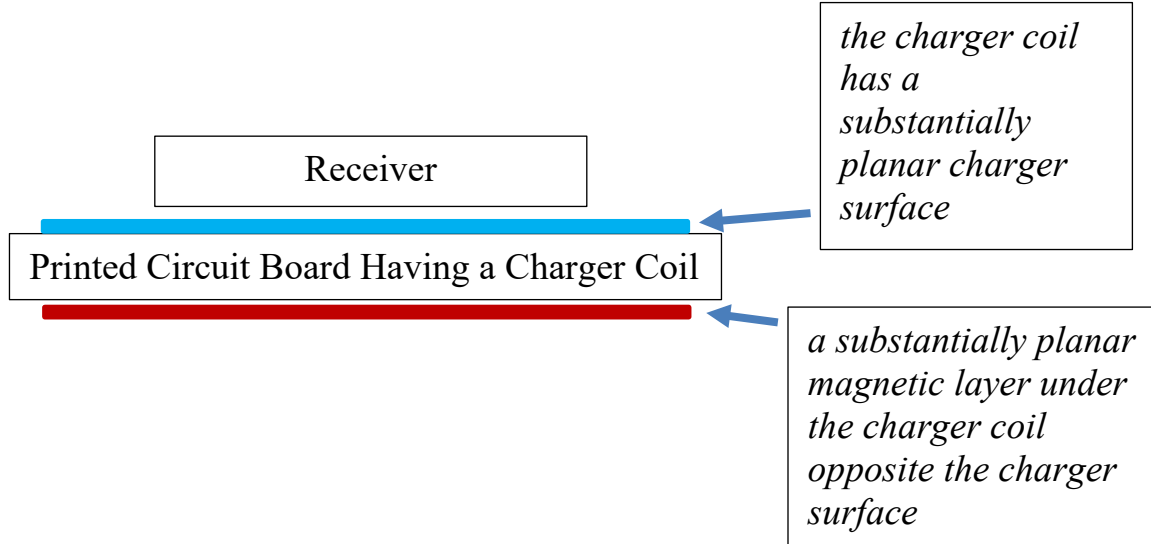
b. Fells does not teach claim elements [1c], [1d], [1k], and [1q]

Claim elements [1c] and [1d] together specify (emphasis added):

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

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

The following is a representation of the charger configuration claimed by these elements [1c] and [1d]:



Fells does not have [1c] “a charger coil [that] *has* a substantially planar charger surface,” as the charger surface in Fells (what Fells calls a “power transfer surface”) is instead displaced from the charger coils. As described above, the charger surface in Fells is displaced from the charger coil by Fell’s ferrite cores and/or cylinders. (See *supra* annotated Fells Fig. 2, shown above in Section III.B.1.a; see also Ex. 1005, Fells, Figs. 1, 2, 8, etc. and corresponding figure descriptions).

Further, with regard to [1d] “*a substantially planar magnetic layer under the charger coil opposite the charger surface*,” the term “*opposite*,” applying its plain and ordinary meaning, which is “situated in a corresponding position with relation to an intervening thing” (see e.g. <https://www.dictionary.com/browse/opposite>), necessitates that the magnetic layer be positioned as shown in the figure above, “opposite” the planar charger surface with the only intervening thing being the charger coil. With this understanding, the Petition fails to show claim element [1d],

as the vertical magnetic cores of the Fells system displaces what the Petition analogizes to the “substantially planar magnetic later.” In particular, the Petition analogizes Fells “ferrite back plate” to the Challenged Claims “substantially planar magnetic layer.” (See Pet. at 13 (quoting Fells description of FIG. 23, “[a] ferrite back-plate may be used *behind the vertical cores* to act as a flux return path, and this improves the coupling factor”) (emphasis added))).

Next, referring to claim elements [1k] and [1q]:

[1k] wherein:

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;

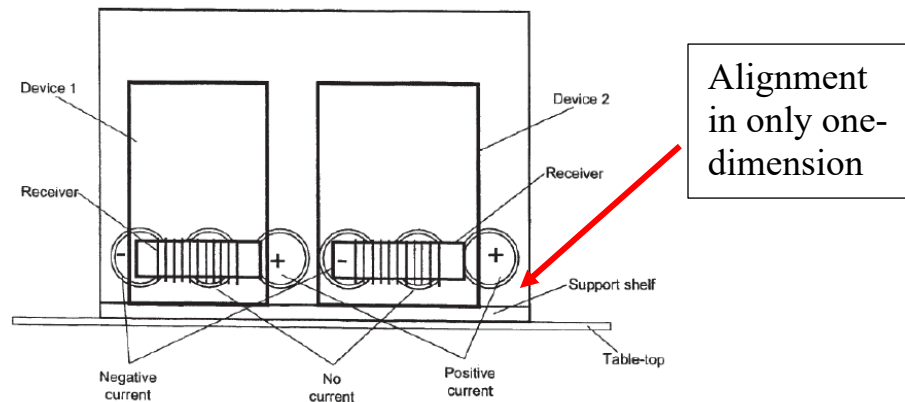
...

[1q] 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.

Regarding [1k] this term as properly construed provides “*more precise alignment between the charger and receiver coils to position the receiver in a power transfer position.*” (See *supra* Section II.D, Claim Construction; see also Ex. 1001, ’349 Patent, 14:34-38). Petitioner relies on Fells Fig. 23 as disclosing this limitation, but, as Petitioner admits, Fells Fig. 23 (shown below) only provides alignment / support “*in one dimension.*” (Pet. at 34). [1k] Means for positioning requires “*more*

precise alignment,” for example, a specific alignment position in three dimensions—a specific position. The Fells support shelf *only* controls the vertical position, and thus it is not a corresponding means for positioning as required by claim element [1k].

Fig. 23



Regarding [1k] and [1q] together, a POSITA would understand the plain and ordinary meaning of the term “proximate,” as used in these claim elements, to mean “next to or immediately preceding or following or very near.” Notably, this follows the dictionary definitions of this term. (Ex. 2004, Collection of “Proximate” Dictionary Definitions).

Figures 18 (top view) and Figure 8 (side view) of the '349 Patent further illustrate this understanding with regard to the charger surface geometry when the mobile device is in the power transfer position:

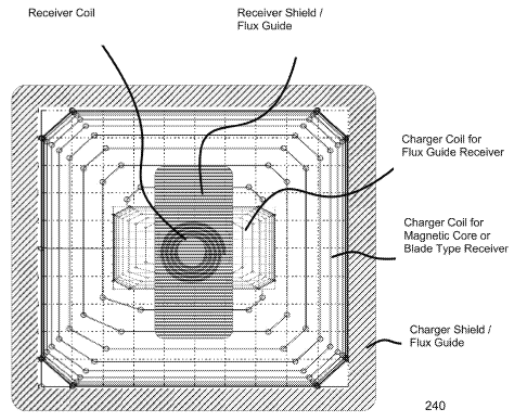


FIGURE 18

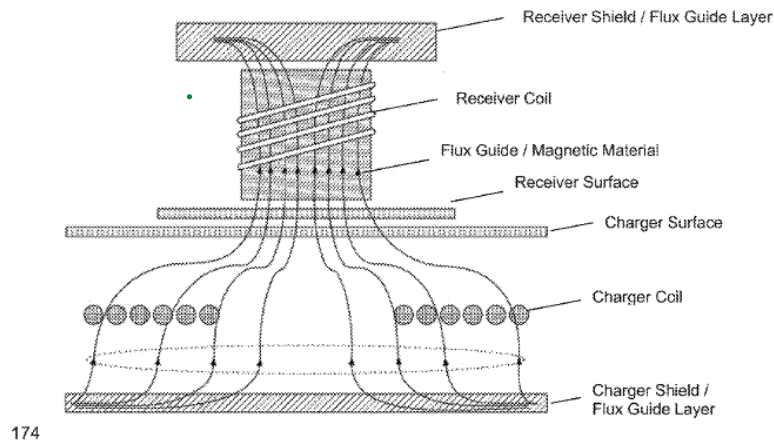


FIGURE 8

It is apparent from Figure 8 above and [1c] and [1d] that the receiver solenoid (referring to [1g]) consisting of Litz wire (referring to [1i]) wound around a magnetic core (referring to [1l]) is next to (i.e. proximate) the charger surface (referring to [1k] and [1q]) with no additional magnetic material in between. (See Ex. 1001, '349

Patent, Claim 1 and Fig. 8, as well as the corresponding description of Fig. 8).⁶ In summary, a power transfer position, proximate to the charger surface (the top surface of the charger coil of the printed circuit board), wherein the first end of the magnetic core is located proximate to the charger coil area [1q], requires the configuration shown in Fig. 8 of the '349 patent above, with no additional magnetic material between the charger coil and the receiver.

'349 claim element [1q] provides further supports this reasoning:

[1q] 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.

This claim section specifies that “the magnetic core” of the “receiver” is located “*proximate*” to the charger coil area (as defined in section [1m]) above the charger surface, such that it can “receive magnetic flux from the charger coil area and guide

⁶ Patent Owner notes the embodiment shown and described with regard to '349 Fig. 7 as this embodiment includes an intervening “Magnetic Material / Switching Layer” between the charger coil and charger surface; however, this is not the claimed embodiment as the claims require that the charger coil define the charger surface according to claim element [1c]. (*See supra*, Section II.B.1.a).

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, ’349 Patent, Claim 1).

Figure 8 of the ’349 Patent (shown above) illustrates what a POSITA, in the context of the specification and claims, would understand the plain and ordinary meaning of the claim term “proximate” to mean, which is “next to or immediately preceding or following or very near.” Notably, this follows the dictionary definitions of this term. (Ex. 2004, Collection of “Proximate” Dictionary Definitions). Further, the ’349 figures, specification and claims consistently use this term. (*See generally* Ex. 1001, ’349 Patent and its Fig. 8 and corresponding description *specifically*). *Trs. Of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1363 (Fed. Cir. 2016) (“the only meaning that matters in claim construction is the meaning in the context of the patent.”). The Petition does not offer a contrary understanding. (*See* Pet. at 33-36 and 60-63).

Thus, for at least the above reasons, Fells cannot be said to describe, teach, or suggest at least claim elements [1c], [1d], [1k] and [1q].

2. Fells teaches away from the claimed invention

Petitioner argues that the challenged claims are unpatentable under AIA 35 U.S.C. § 103 as being obvious over Fells. In doing so, Petitioner failed to recognize the Fells actually teaches away from the claimed invention.

Obviousness may be defeated if the prior art indicates that the invention would not have worked for its intended purpose or otherwise teaches away from the invention. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326 (Fed. Cir. 2009). A reference teaches away “when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken” in the challenged claim. *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013).

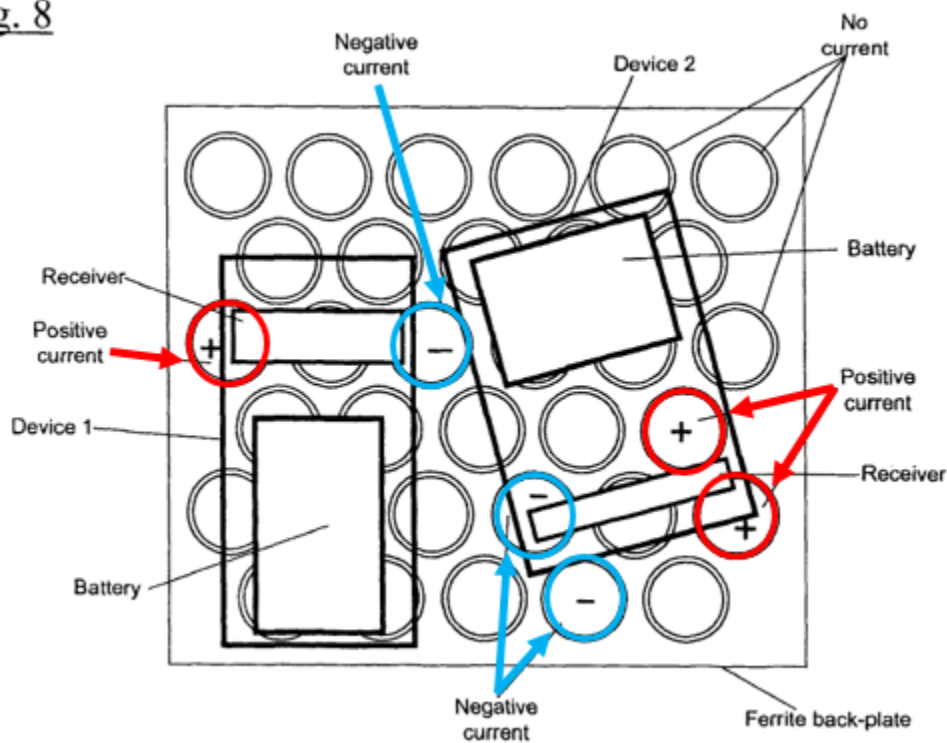
First, for at least the reasons listed in the Argument section above, *see supra*, Section III.B.1, Fells does not teach or suggest the “*proximate*” placement requirements that the challenged claims each require. This is because as discussed above, the “ferrite cores” of Fells displace the receiver from the charger surface, such that the receiver is not *proximate* to the charger surface as the claims require. (*See supra*, Section III.B.1).

Second, Fells is designed towards freedom of positioning for the devices being charged in Fells, and because of this there exists no corollary concept in Fells of claim element [1k] “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.” A user of the Fells multi-coil charger is intentionally free to set their device in any position on Fells’ power transfer surface. (Ex. 1005, 2:58-60). A

system such as Fells, with a distinct purpose of positional freedom, would thus discourage, and hence *teach away from*, the Challenged Claims which require the “means for positioning” (claim element [1k]), which properly construed provides more precise alignment between the charger and receiver coils to position the receiver in a power transfer position. (*See supra* Section II.D, Claim Construction).

Fells teaching of positional independence and freedom of position for the device or devices being charged is further shown below in Fells Fig. 8 annotated.

Fig. 8



As seen, Fells freedom of positioning provides a myriad of positions for the devices being charged. Fells thus teaches away from a “means for positioning” at a precise location.

Fells teaching away from *both* the “proximate” and “means for positioning” requirements in the challenged claims reflect that a POSITA “would be led in a direction divergent from the path that was taken” in the challenged claims. *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013)

Thus, for any of the above reasons, the Petition fails to establish a basis to institute Ground 1.

C. The Petition Fails to Establish A Basis To Institute Ground 3

Ground 3 of the Petition relies on the same arguments presented in the Petition for Ground 1 with respect to each of claim elements [1a]-[1q] and [26a]-[26o], with the exception of the “means for positioning” claim elements [1k] and [26e]. (Pet. at 86). Petitioner therefore urges all of the same arguments presented above in Section III-B-1 as to Ground 1 with respect to Ground 3, namely that the Petition based on Fells is deficient because its ferrite cores displace its charging surface and the magnetic under-layer from the charging coils, contrary to the Challenged Claims. (*See supra* Section III-B-1).

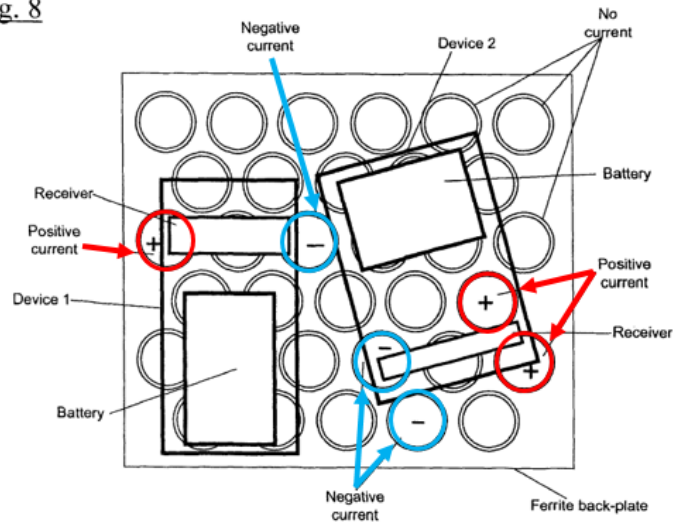
Moreover, the Petition also fails to show that Fells, Stoner, and Nakamura (Ground 3) teach or render obvious claim elements [1k] and [26e], the “means for positioning” claim elements, as is explained below.

A POSITA would not have combined Fells with either Stoner or Nakamura with respect to the “means for positioning” claim elements, because Fells is directed to a system with *positional freedom* whereas Stoner and Nakamura are directed towards *specific position* chargers (thus they are counter to one another).

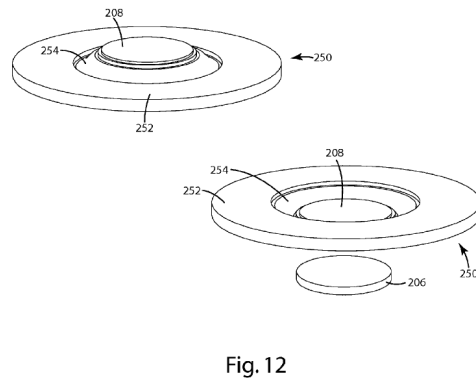
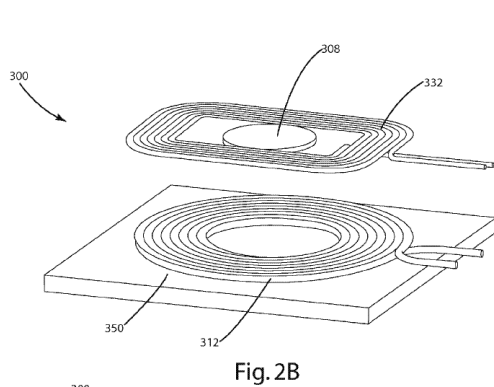
Fells, as mentioned in Section III.B.2 *supra*, teaches a multi-coil, multi-device, charging system having the purpose of providing positional freedom and flexibility for the placement of devices for charging. (*See also* Ex. 1005, Fells, Fig. 8 and corresponding description). This is the opposite purpose to that of the system described by Stoner which is directed towards one-to-one precision alignment between charger and receiver coils. For example, compare Fells Fig. 8 with Stoner Figs. 2B and 12 and also Fig. 2A of Nakamura (each shown below). Notably, Fells is designed so that each device being charged can be placed freely on the charging surface of Fells and the corresponding charging coils of Fells detect the receiver and then energize the correct coils that line up with the placement of the receiver. This is shown by the colorized red and blue circles shown below in Fells Fig. 8 that each represent an “energized” charger coil. By contrast, each of Stoner and Nakamura describe the centralized alignment of one charger and one receiver, which is further differentiated by Fells in that it is always at least two charging coils that are energized. The design and purpose of Fells would be defeated if the receiver was or needed to be aligned with just one coil (as is required by both Stoner and Nakamura).

Fells (Ex. 1005):

Fig. 8

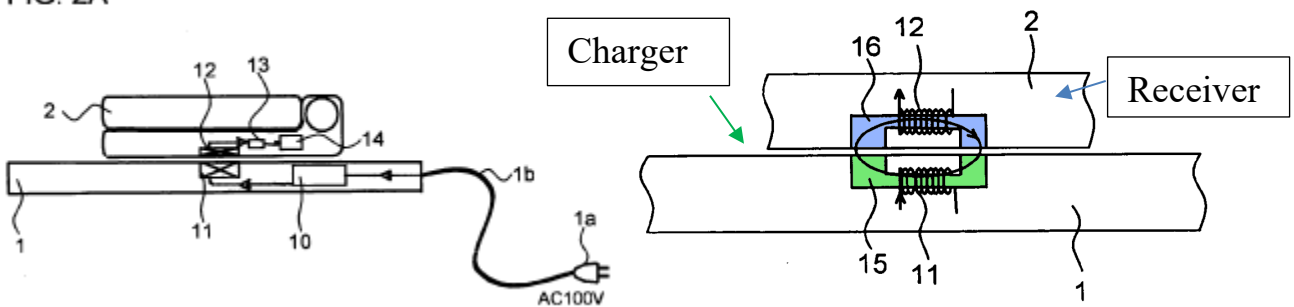


Stoner (Ex. 1011):



Nakamura (Ex 1010):

FIG. 2A



For at least this reason a POSITA would not have been motivated to combine Fells with a system like Stoner or Nakamura, because it would in fact run contrary and defeat the purpose of Fells.

Additionally, Stoner and Nakamura have geometric differences in their coils in comparison to Fells that run counter to combining them with Fells, which the Petition fails to address.

For example, Stoner exclusively describes the use of a planar coil for both the charger and the receiver, with the two coils (i.e. the charger and receiver coils) aligning at a common center point based on Stoner's alignment system. (*See e.g.* Ex. 1011, Stoner, Figs. 2B and 12 and corresponding descriptions). This Stoner design is incompatible with the multiple charger coil geometry of Fells, because the design of Fells energizes multiple (at least two) "charger coils" at any one time for charging a device. (*See* Ex. 1005, Fells, Fig. 18 and corresponding description). Thus, in Fells there is no reason to have a common center point for coil alignment. (*See* Ex. 1005, Fells, Fig. 8).

Nakamura is also incompatible with Fells. Nakamura teaches a charger/receiver pairing with two solenoid coil types wrapped around magnetic cores for the transfer of power. (*See* Ex. 1010, Fig. 2B, as shown above). The Petition makes no showing as to how this Nakamura coil geometry would be

combined with that of Fells dispersed, multi-charger coil design for position freedom.

The Petition fails to address these issues and hence is insufficient for institution. Thus, for any of the above reasons, the Petition fails to establish a basis to institute Ground 3.

D. The Petition Is Similarly Deficient On Grounds 2 and 4, Which Depend On Grounds 1 And 3 Respectively

Grounds 2 and 4 are directed to dependent claims (dependent on claim 1) and respectively depend on Grounds 1 and 3 as to independent claim 1. Thus, institution of Grounds 2 and 4 should be denied for the same reasons as on Grounds 1 and 3.

IV. CONCLUSION

For any or all of the above-described reasons, Patent Owner respectfully requests that the Board deny institution.

Dated: October 12, 2023

Respectfully submitted,

/s/Steven J. Pollinger

Steven J. Pollinger
Reg. No. 35,326
spollinger@mckoolsmith.com
George Fishback
Reg. No. 76,345
gfishback@mckoolsmith.com
McKool SMITH, P.C.
303 Colorado Street, Suite 2100
Austin, Texas 78701
Telephone: (512) 692-8700
Facsimile: (512) 692-8744

Ryan McBeth
Reg. No. 69,817
rmcbeth@mckoolsmith.com
McKool SMITH, P.C.
600 Travis St., Suite 7000
Houston, Texas 77002
Telephone: (713) 485-7300
Facsimile: (713) 485-7344

Christopher P. McNett
Reg. No. 64,489
cmcnett@mckoolsmith.com
McKool SMITH, P.C.
1999 K Street NW, Suite 600
Washington, D.C. 20006
Telephone: (202) 370-8300
Facsimile: (202) 370-8344

*Counsel for Patent Owner, Mojo Mobility
Inc.*

CERTIFICATION OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned **PATENT OWNER'S PRELIMINARY RESPONSE** specified in 37 C.F.R. § 42.24 have 8.806 words, in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24(b)(1). This word count was prepared using Microsoft Word.

Date: October 12, 2023

Respectfully submitted,

/s/ Steven J. Pollinger
Steven J. Pollinger
Reg. No. 35,326

CERTIFICATION OF SERVICE

The undersigned hereby certifies that the above-captioned **PATENT OWNER'S PRELIMINARY RESPONSE** is being served on counsel for petitioner via electronic mail on October 12, 2023, in its entirety on the following counsel of record for Petitioner:

Joseph E. Palys
Naveen Modi
Howard Herr
PH-Samsung-MojoMobility-IPR@paulhastings.com

Date: October 12, 2023

Respectfully submitted,

/s/ Steven J. Pollinger
Steven J. Pollinger
Reg. No. 35,326