

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. IPR2023-01101
Patent No. 11,342,777

PATENT OWNER'S PRELIMINARY RESPONSE

Mail Stop "PATENT BOARD"
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND	4
A.	The Challenged '777 Patent	4
B.	The Petition Grounds	7
C.	Independent Claims 1 and 24 of the '777 Patent	7
D.	Claim Construction	10
E.	Person of Skill in the Art.....	11
F.	Alleged Prior Art Asserted Against The Challenged Independent Claims	11
1.	Sogabe – U.S. Pat. No. 8,369,905	11
2.	Azancot – U.S. Pat. Pub. No. 2010/0070219	13
III.	ARGUMENT	14
A.	The Petition Should Be Denied Under <i>Fintiv</i> 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	14
B.	Ground 1 Is Insufficient for Institution	25
1.	The Petition fails to show that Sogabe or Azancot, either alone or in combination, teach or suggest at least a base system that operates in two power-delivery modes using uni- and bi- directional communication and control protocols and regulating the power delivery for charging the battery of the device	26
a.	Sogabe and Azancot fail to teach or suggest a multi- mode inductive charging communication-and-control system	26
b.	Sogabe’s setup stage occurs before any regulated power is delivered to the battery of the electronic device	33

c.	Sogabe only regulates power delivered to the battery of the electronic device by the receiver and not by the base system	40
d.	Sogabe only contemplates two-way communications.....	42
e.	Azancot only contemplates one-way communications	45
f.	Neither Sogabe nor Azancot contemplates two modes with distinct power levels or distinct operating frequencies	46
2.	The Petition fails to show that A POSITA would have been motivated to combine Sogabe and Azancot.....	47
3.	The Petition fails to adequately explain how a combined Sogabe and Azancot system would function	50
4.	The Petition fails to show that combining Sogabe and Azancot would result in the system of independent claims 1 and 24—it would not.....	52
C.	Grounds 2-4 Are Insufficient For the Same Reasons As Ground 1	53
IV.	CONCLUSION.....	54

TABLE OF AUTHORITIES

	Page(s)
CASES	
<i>Apple Inc. v. Yu</i> , IPR2019-01258, Paper No. 29 (PTAB Jan. 5, 2021)	51
<i>Apple v. Fintiv</i> , IPR2020-00019, Paper 11 (PTAB March 20, 2020)	passim
<i>E-One, Inc. v. Oshkosh Corp.</i> , IPR2019-00161, Paper 16 (PTAB May 15, 2019)	21
<i>General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha</i> , IPR2016-01357, Paper 19 (PTAB Sept. 6, 2017).....	17
<i>In re Warsaw Orthopedic, Inc.</i> , 832 F.3d 1327 (Fed. Cir. 2016)	47
<i>Maxlite, Inc. v. Jiaxing Super Lighting Electric Appliance Co., Ltd.</i> , IPR2020-00208, Paper 32 (PTAB Oct. 12, 2021).....	21
<i>MyPort, Inc. v. Samsung Elecs. Co., Ltd.</i> , Case No. 2:22-CV-00114-JRG, Dkt. 73 (E.D. Tex. June 13, 2023)	18
<i>Next Caller, Inc. v. TrustID, Inc.</i> , IPR2019-00961, Paper 10 (PTAB Oct. 16, 2019).....	21
<i>Oyster Optics, LLC, v. Infinera Corp.</i> , Case No. 2:19-CV-00257-JRG, Dkt. 87 (E.D. Tex. July 17, 2020).....	19
<i>Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC</i> , IPR2019-01393, Paper 24 (PTAB June 16, 2020)	18
<i>Satco Products, Inc. v. The Regents of the University of California</i> , IPR2021-00794, Paper 14 (PTAB Nov. 10, 2021).....	20
<i>Solas OLED Ltd. v. Samsung Display Co., Ltd.</i> , Case No. 2:19-CV-00152-JRG, Dkt. 133 (E.D. Tex. July 17, 2020).....	18
<i>Sotera Wireless, Inc. v. Masimo Corp.</i> , IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020)	23

<i>Stanley Black & Decker, Inc., et al. v. Zircon Corp.,</i> IPR2020-01572, Paper 10 (PTAB April 19, 2021)	21
<i>Vector Flow, Inc. v. HID Glob. Corp.,</i> IPR2023-00353, Paper 8 (PTAB July 27, 2023)	25
<i>Verizon Business Network Services, Inc. v. Huawei Techs. Co.,</i> IPR2020-01141, Paper 12 (PTAB Jan. 14, 2021)	22

STATUTES

35 U.S.C. § 102	17
35 U.S.C. § 103	17
35 U.S.C. § 313	1
35 U.S.C. § 314(a)	1, 15
35 U.S.C. § 315 (e)(2)	24

OTHER AUTHORITIES

37 C.F.R. § 42.107	1
--------------------------	---

TABLE OF EXHIBITS

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).

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 1-3, 5-11, 13-14, and 24 of U.S. Patent No. 11,342,777 (the “777 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, (5) IPR2023-01090, (6) IPR2023-01091, (7) IPR2023-01092, (8) IPR2023-01093, (9) IPR2023-01101 (this IPR), (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, the Petition fails to show that Sogabe and Azancot individually or in combination teach or suggest multiple elements in all Challenged Claims. This is because neither Sogabe nor Azancot individually or in combination teach a system that contains multiple modes of operation, multiple protocols, multiple operating frequencies, or multiple power levels supplied to the battery of the electronic device. Instead, similar to the pre-existing systems that the inventor, Afshin Partovi, was aware of and discussed in the background of his patent application, each of Sogabe and Azancot teach the use of a single mode of operation for providing inductive power to an electronic device. For example, as to Sogabe: (1) Sogabe's setup stage occurs before any power is supplied to the battery of the electronic device and is not a distinct mode of operation as required by the claim, such that the base system in Sogabe cannot be said to regulate power delivered to the battery of the electronic device using multiple modes of operation; (2) Sogabe only contemplates regulating

power by the inductive charging receiver (“receiver”) and does not regulate power from the base system as is required by multiple claim elements; (3) Sogabe only contemplates a two-way communication mode of operation and for at least that reason could not satisfy the uni-directional (from receiver to base system) messaging communication-and-control protocol required by the first mode of operation in the claims; (4) Sogabe does not have two power delivery modes associated with two different power levels as is required by independent claim 1; and (5) Sogabe does not have two power delivery modes associated with two different operating frequency ranges as is required by independent claim 24. Azancot similarly fails to teach or suggest multiple elements in all the Challenged Claims, because, for example: (1) Azancot only contemplates a single mode of operation, which uses a uni-directional messaging communication-and-control protocol.

Third, the Petition fails to demonstrate that a person of skill in the art (“POSITA”) would be motivated to combine Sogabe and Azancot or would have a reasonable expectation in success in doing so. Instead, as the Petition and these references bear out, Sogabe and Azancot are divergent systems at odds with one another, such that it cannot be reasonably argued that a POSITA would combine them to arrive at the claimed invention. The Petition has not demonstrated that a POSITA would have had both: (1) a motivation to combine these references and (2) an expectation of success in attempting to do so.

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

II. BACKGROUND

A. The Challenged '777 Patent

The inventions described and claimed in the '777 patent relate in general to a wireless charging system that “is capable of detecting and operating under a plurality of power protocols and/or a plurality of communication protocols.” (Ex. 1001, Summary, 2:46-48).

Pre-existing systems did not recognize the desire for, nor the problems that would be solved by a multi-mode and multi-protocol system for delivering power. Leading up to his invention of such a system, the inventor of the '777 patent, Afshin Partovi (“Partovi”), recognized that, “device manufacturers such as Apple, Inc. (Cupertino, Calif.) typically produce battery powered products *that use protocols that are incompatible with charging and/or power protocols of other device manufacturers* such as Samsung and the like.” (Ex. 1001, '777 Patent, Detailed Description, 5:3-6). Partovi further recognized that:

[C]ertain protocols developed for Apple products specifically forbid Apple devices from being charged using chargers that do not comport with protocol standards for Apple devices. Similarly, manufacturers of so-called “universal” docking stations for laptop and notebook computers often have to contend with software and hardware protocol changes over time. Branded devices such as those sold under the Apple®, Samsung®, Microsoft®, Google®, Android®, iPhone®, HTC®, Tesla® marks and the like may use a plurality of charging and communications protocols. Furthermore, certain devices and chargers must have appropriate form factors, e.g., mating male and female

forms when viewed from a horizontal perspective, to work effectively and efficiently together. *Thus, the complexity of such compatibility problems lies at the heart of the present invention.*

(*Id.* at 5:7-22). In identifying the problem and having the motivation to solve it, Partovi was able to develop a novel and non-obvious system that specifically overcame the incompatibilities and challenges of the pre-existing systems. Partovi further noted and recognized what some of the incompatibilities of pre-existing systems were:

Various manufacturers may use **different encodings**, and also **bit rates** and **protocols**. **The control process** used by different manufacturers **may also differ**, further causing interoperability problems between various chargers and receivers. **A source of interoperability differences may be the size, shape, and number of turns used for the power transfer coils**. Furthermore, depending on the input voltage used, the design of **a wireless power system may step up or down the voltage in the receiver** depending on the voltage required by a device by having appropriate number of turns in the charger and receiver coils. However, **a receiver from one manufacturer may then not be able to operate on another manufacturer charger due to these differences in designs employed**. It is therefore beneficial to provide a system that can operate with different receivers or chargers and can be universal.

(*Id.* at 21:15-30 (emphasis added)).

the system is designed with its hardware and/or firmware so that each charging location **is capable of operating in one or more communication and/or power protocols, providing different voltages, and/or power levels** and thus providing more flexibility.

(*Id.* at 57:16-20 (emphasis added)).

Depending on the message received, the charger can then decide to change the charger driver voltage amplitude, frequency, or duty cycle, or a combination of these or other parameters to provide the appropriate regulated output.

(*Id.* at 21:60-63 (emphasis added)).

By recognizing the various differences between pre-existing wireless charging systems, Partovi was able to invent a novel and non-obvious multi-mode / protocol charging system for delivering power at different charging power levels or operating frequencies using different protocols.

Partovi recognized that the technological benefit a wireless charging system that “is capable of detecting and operating under a plurality of power protocols and/or a plurality of communication protocols,” Ex. 1001, Summary, 2:46-48, is in part the extreme flexibility provided to mobile device users that are utilizing such a system. (*Id.* at 5:7-22, 21:15-30, 58:35-43). These benefits can include, for example, the ability to wirelessly charge portable devices, such as smartphones, that are made by different manufacturers and that utilize different charging routines and/or protocols, all with a single base charger. (*Id.*) Correspondingly, with regard to portable devices that are able to receive wireless power, again such as smartphones, the ability to receive charge from various types of charging devices using different protocols and power levels, also provided mobile device users with flexibility. At the time of the invention, and as described *supra*, it was common for smartphone and/or other rechargeable portable device manufacturers to utilize unique and proprietary wireless charging mechanisms that were incompatible with each other. (*See supra*). One manufacturer’s wireless charger would often be inoperable or only

partially operable with another manufacturer's wireless charge accepting devices. Partovi recognized this and invented a novel system that overcame the various technical issues involved in creating a multi-mode wireless charging system.

B. The Petition Grounds

The Petition includes four grounds against the shown claims ("the Challenged Claims") of which claims 1 and 24 are independent claims and the others are dependent claims, dependent on claim 1.

Ground	References	Claims
1	Sogabe and Azancot	1-3, 5, 6, 9-11, 13-14, and 24
2	Sogabe, Azancot, and Walley	6
3	Sogabe, Azancot, and Baarman	7
4	Sogabe, Azancot, and Muratov	8

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

C. Independent Claims 1 and 24 of the '777 Patent

Independent claims 1 and 24 of the '777 Patent are set forth below with the language/limitations discussed below shown in emphasis. Ground 1 depends on claims 1 and 24, and Grounds 2, 3 and 4 depend on claim 1.

Claim 1²

[1a] A base system for inductive charging of an electronic device comprising an inductive charging receiver and a battery electrically coupled to the inductive charging receiver, the base system comprising:

[1b] an inductive charging coil;

[1c] a coil drive circuit electrically coupled to the inductive charging coil, wherein the coil drive circuit provides power to the inductive charging coil by switching a voltage input to the inductive charging coil at an operating frequency;

[1d] a current detection circuit electrically coupled to the inductive charging coil; and

[1e] a microcontroller, wherein the microcontroller is configured for:

[1f] **operating in a first mode of operation using a first protocol**, wherein the *first protocol is an inductive charging communication-and-control protocol that comprises uni-directional messaging*, wherein the first mode of operation comprises:

[1g] **receiving**, using the current detection circuit, *a first communication from the inductive charging receiver of the electronic device, wherein the first communication is based on the first protocol*; and

[1h] *regulating power delivered to the battery of the electronic device* **in response to the received first communication**; and

[1i] **operating in a second mode of operation using a second protocol**, wherein the *second protocol is an inductive charging communication-and-control protocol that defines bi-directional messaging*, wherein the second mode of operation comprises:

[1j] **receiving**, using the current detection circuit, *a second communication from the inductive charging receiver of the*

² Emphasis added throughout unless otherwise noted.

electronic device, wherein the second communication is based on the second protocol;

[1k] transmitting, by modulating the operating frequency with the coil drive circuit, **a frequency-modulated third communication to the inductive charging receiver of the electronic device, *wherein the frequency-modulated third communication is based on the second protocol***; and

[1l] *regulating power delivered to the battery of the electronic device* in response to the received second communication;

[1m] wherein the first mode of operation is associated with a first power level and the second mode of operation is associated with a second power level, and [1n] wherein and the *first power level and the second power level are different*.

Claim 24

[24a] A system for inductive charging of an electronic device comprising an inductive charging receiver and a battery electrically coupled to the inductive charging receiver, the system comprising:

[24b] an inductive charging coil;

[24c] a coil drive circuit electrically coupled to the inductive charging coil, wherein the coil drive circuit provides power to the inductive charging coil by switching a voltage input to the inductive charging coil at an operating frequency;

[24d] a current detection circuit electrically coupled to the inductive charging coil; and

[24e] a microcontroller, wherein the microcontroller is configured for:

[24f] operating in a first mode of operation using a first protocol, wherein the *first protocol is an inductive charging communication-and-control protocol that comprises uni-directional messaging*, wherein the first mode of operation comprises:

[24g] receiving, using the current detection circuit, **a first communication from the inductive charging receiver of the**

electronic device, wherein the first communication is based on the first protocol; and

[24h] regulating power delivered to the battery of the electronic device in response to the received first communication; and

*[24i] operating in a second mode of operation using a second protocol, wherein the *second protocol is an inductive charging communication-and-control protocol that comprises bi-directional messaging*, wherein the second mode of operation comprises:*

[24j] receiving, using the current detection circuit, a second communication from the inductive charging receiver of the electronic device, wherein the second communication is based on the second protocol;

[24k] regulating power delivered to the battery of the electronic device in response to the received second communication; and

*[24l] transmitting, by modulating the operating frequency with the coil drive circuit, a frequency-modulated third communication to the inductive charging receiver of the electronic device, *wherein the frequency-modulated third communication is based on the second protocol*;*

[24m] wherein the operating frequency for the first mode of operation is associated with a first frequency range and the operating frequency for the second mode of operation is associated with a second frequency range, and

*[24n] wherein *the first frequency range and the second frequency range are different*.*

D. Claim Construction

For the sake of this Response only, Patent Owner adopts Petitioner's position that no constructions are required.

E. Person of Skill in the Art

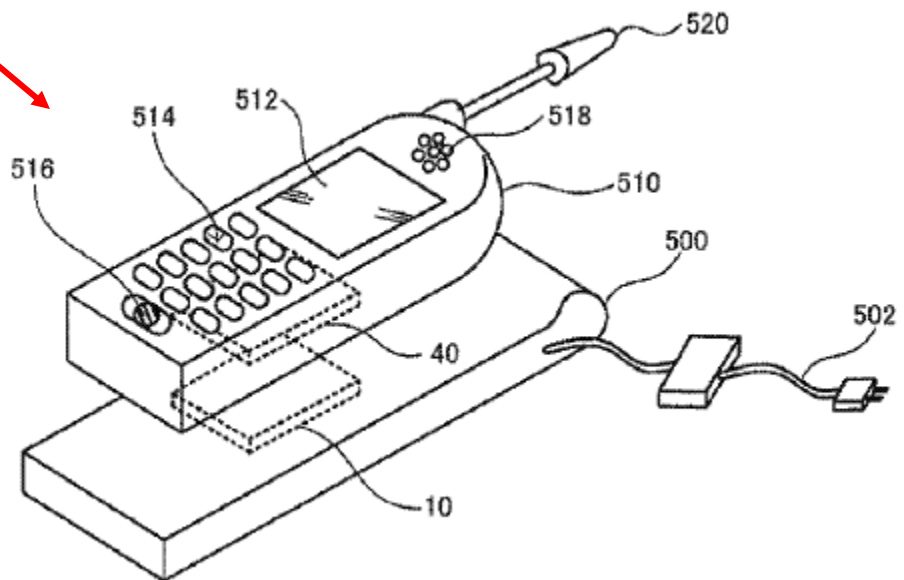
For the purposes of this Preliminary Response, Patent Owner does not challenge Petitioner's definition of a POSITA (Pet. 4), but Patent Owner reserves the right to argue for a different definition should there be institution.

F. Alleged Prior Art Asserted Against The Challenged Independent Claims

1. Sogabe – U.S. Pat. No. 8,369,905

Sogabe mobile phone
and wireless charger

FIG. 1A



Sogabe describes a wireless charger system for a portable device, such as a mobile phone. However, Sogabe shares many of the same problems and issues of the pre-existing devices Partovi sought to solve, as mentioned *supra* and as cited to in the background section of the '777 patent. (Ex. 1001, Detailed Description, 5:3-

22). Sogabe is focused on the problem of exchanging an optimum “communication condition” between a receiver and a base system *before* the delivery of any power for charging of an electronic device battery so that once the delivery of power is initiated, such a communication could be used and effective for the duration of the charging process when large power delivery currents are present. (Ex. 1005, Sogabe, 2:23-46). Sogabe, did not contemplate a multi-mode / protocol system for delivery of power to the battery of an electronic device at different power levels or at different operating frequencies, but instead teaches a single mode / protocol system that involved setup communications between the receiver and the base system *before* any power is delivered to the battery of the electronic device, to set up a subsequent wireless charging session. (*Id.*) As such, the initial setup *communication only* session (*no delivery of power to the battery*) cannot be considered a separate mode of operation per claim language as the petitioner alleges. Further differentiating the Sogabe system, Sogabe discloses the regulation of power by the *receiver side only* and does not disclose the regulation of power by the *base system side* (under any condition at all) as is required by ’777 patent claims. For example, Fig. 9 of Sogabe, is shown below with red rectangle annotations added; *see* regulator 49 and charge control device 92 in respect to the power receiving device 40 and the load 90. (Ex. 1005, Sogabe, Fig. 9 and corresponding description).

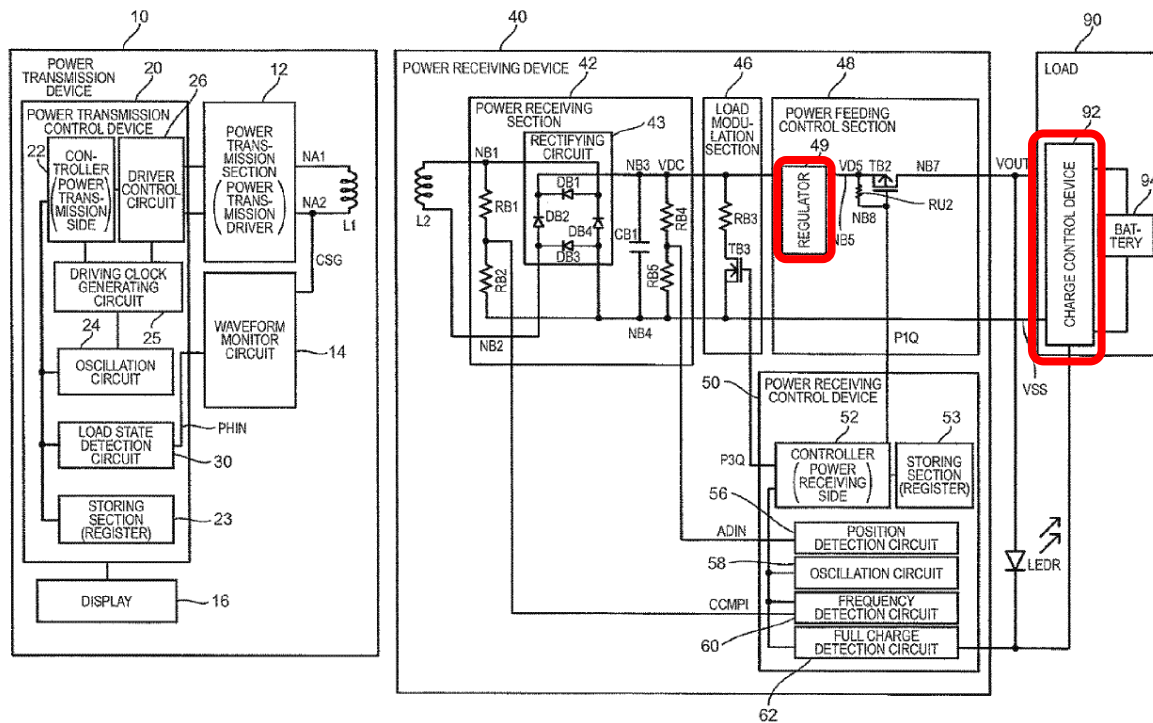


FIG. 9

In light of these differences and many others that will be described in further detail below, it is apparent that the claimed invention of the '777 patent was a new and non-obvious system, that solved many of the problems in the pre-existing systems, including the system disclosed by Sogabe.

2. Azancot – U.S. Pat. Pub. No. 2010/0070219

Azancot describes “An efficiency monitor for monitoring the efficiency of power transmission by an inductive power outlet.” (Ex. 1006, Azancot, Abstract). However, Azancot, just like Sogabe, shares many of the same problems and issues of the pre-existing devices Partovi sought to remedy. (*See supra* and Ex. 1001,

Detailed Description, 5:3-22). For example, Azancot, just like Sogabe, did not contemplate a multi-mode / protocol system but instead similarly teaches a single proprietary communications protocol. (*See generally* Ex. 1006, Azancot).

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.*)

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 17-18) as it does in this petition, in the other IPR petition against the ’777 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).

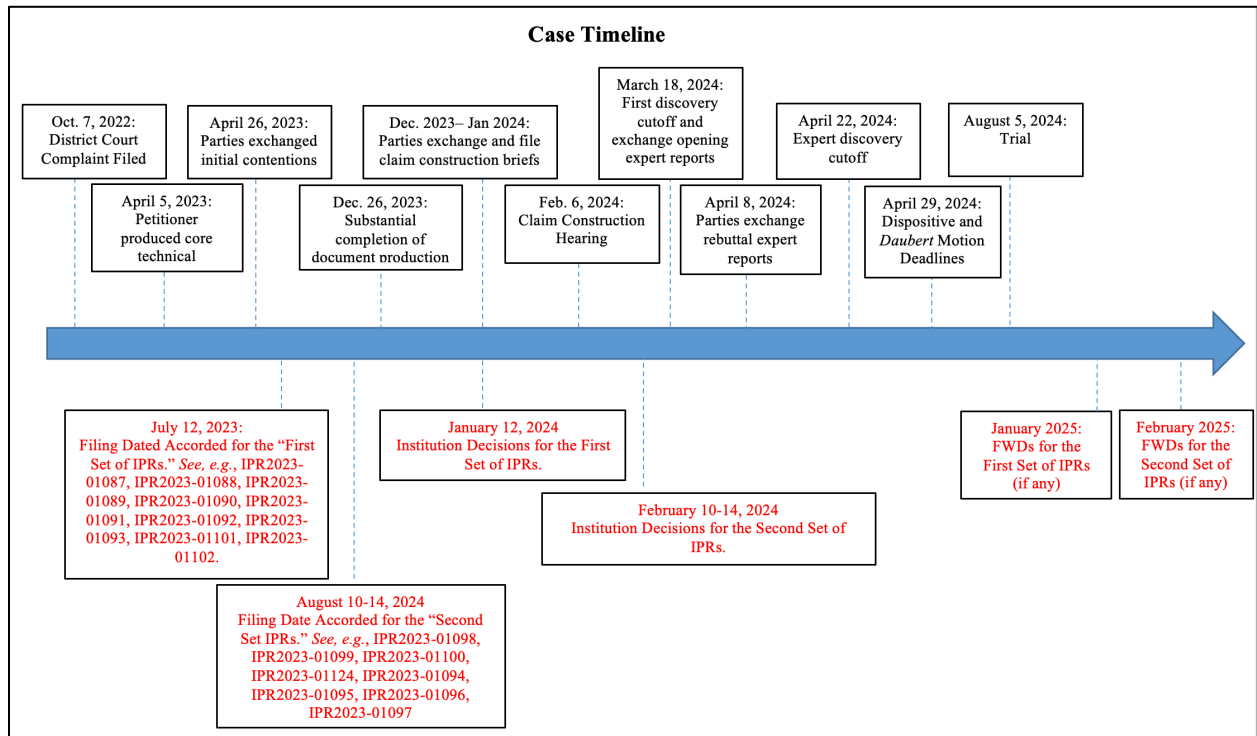
Factor 1: the district court case has not been stayed nor is it likely to be stayed even were this petition instituted. Petitioner states that this factor is neutral.

(Pet. at 73). However, Petitioner has failed to consider the totality of the evidence. This Board has previously held that “[i]n 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.”).

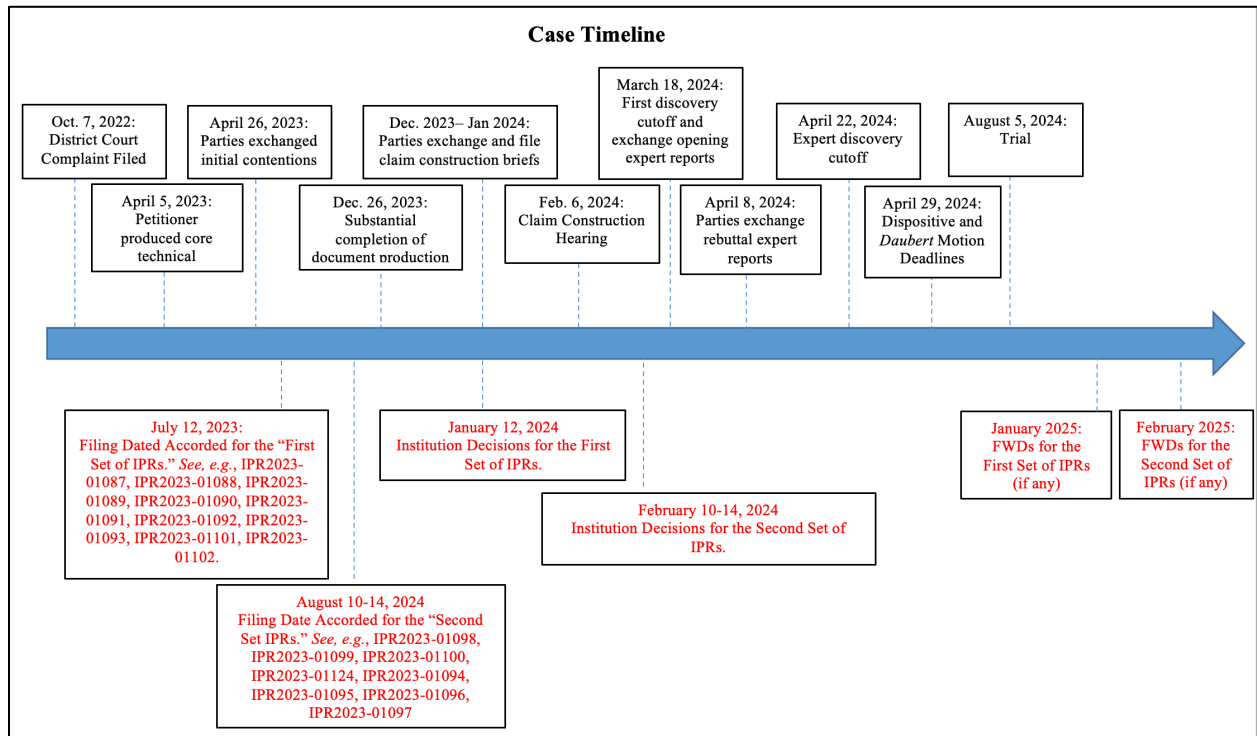
Here, the timing demonstrates that Judge Gilstrap is likely to deny a motion to stay. As shown in the case timeline below, the decision on institution across the *eighteen* IPRs is not expected until January and February 2024. By that time, the parties will have had the *Markman* hearing and substantial 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. Ground 1 Is Insufficient for Institution

As explained below, the Petition has failed to establish an adequate basis to institute Ground 1.

1. **The Petition fails to show that Sogabe or Azancot, either alone or in combination, teach or suggest at least a base system that operates in two power-delivery modes using uni- and bi- directional communication and control protocols and regulating the power delivery for charging the battery of the device**

a. **Sogabe and Azancot fail to teach or suggest a multi-mode inductive charging communication-and-control system**

First, neither Sogabe (Ex. 1005) nor Azancot (Ex. 1006) teaches or suggests a multi-mode system and for at least that reason fail to show each of claim elements [1f], [1g], [1h], [1i], [1j], [1k], and [1l] shown below.³

[1f] operating in a first mode of operation using a first protocol, wherein the first protocol is an inductive charging communication-and-control protocol that comprises uni-directional messaging, wherein the first mode of operation comprises:

[1g] receiving, using the current detection circuit, a first communication from the inductive charging receiver of the electronic device, wherein the first communication is based on the first protocol; and

³ Patent Owner urges each of the arguments that are made in regard to independent claim 1 to similarly situated independent claim 24 and to each challenged dependent claim that depends from the challenged independent claims. Notably each of the claim elements of claim 1 has a corollary claim element in claim 24 with the exception of [1m], [1n], [24m], and [24n]. For these different claim elements, arguments, where raised, will be presented separately.

[1h] regulating power delivered to the battery of the electronic device in response to the received first communication; and

[1i] operating in a second mode of operation using a second protocol, wherein the second protocol is an inductive charging communication-and-control protocol that defines bi-directional messaging, wherein the second mode of operation comprises:

[1j] receiving, using the current detection circuit, a second communication from the inductive charging receiver of the electronic device, wherein the second communication is based on the second protocol;

[1k] transmitting, by modulating the operating frequency with the coil drive circuit, a frequency-modulated third communication to the inductive charging receiver of the electronic device, wherein the frequency-modulated third communication is based on the second protocol; and

[1l] regulating power delivered to the battery of the electronic device in response to the received second communication;

Instead, and similar to the pre-existing systems that Partovi sought to overcome, each of Sogabe and Azancot only disclose the use of a single mode of operation, as will be discussed in further detail below.

Sogabe FIG. 6 below illustrates the protocol utilized for the single mode of operation that Sogabe describes (annotations added). FIG. 6 shows a setup phase (red rectangle) including exchanging setup information that precedes any normal power transmission (blue rectangle) for charging:

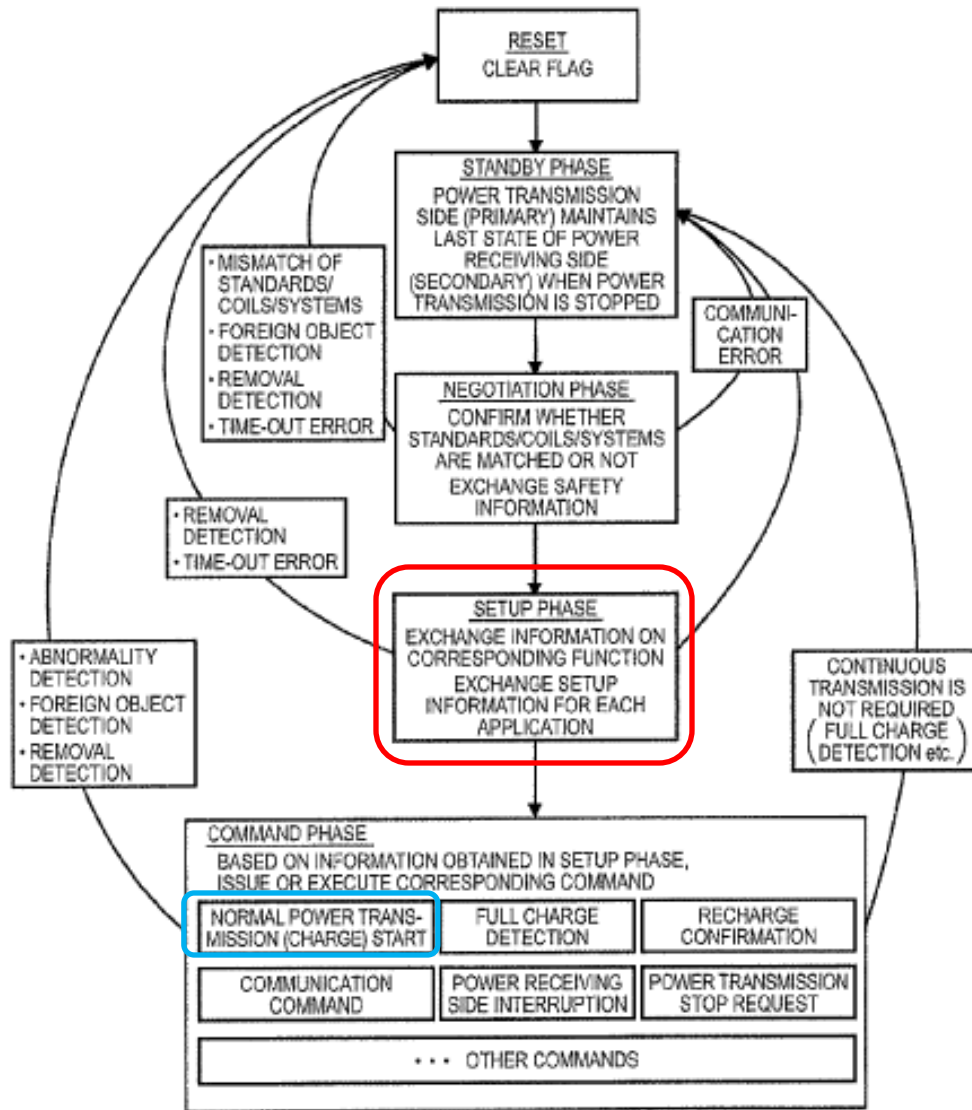


FIG. 6

(Ex. 1005, Sogabe, FIG. 6).

Fig. 11 of Sogabe further shows and describes what occurs during the Sogabe, “Setup Phase” (shown in a red rectangle below with annotations added):

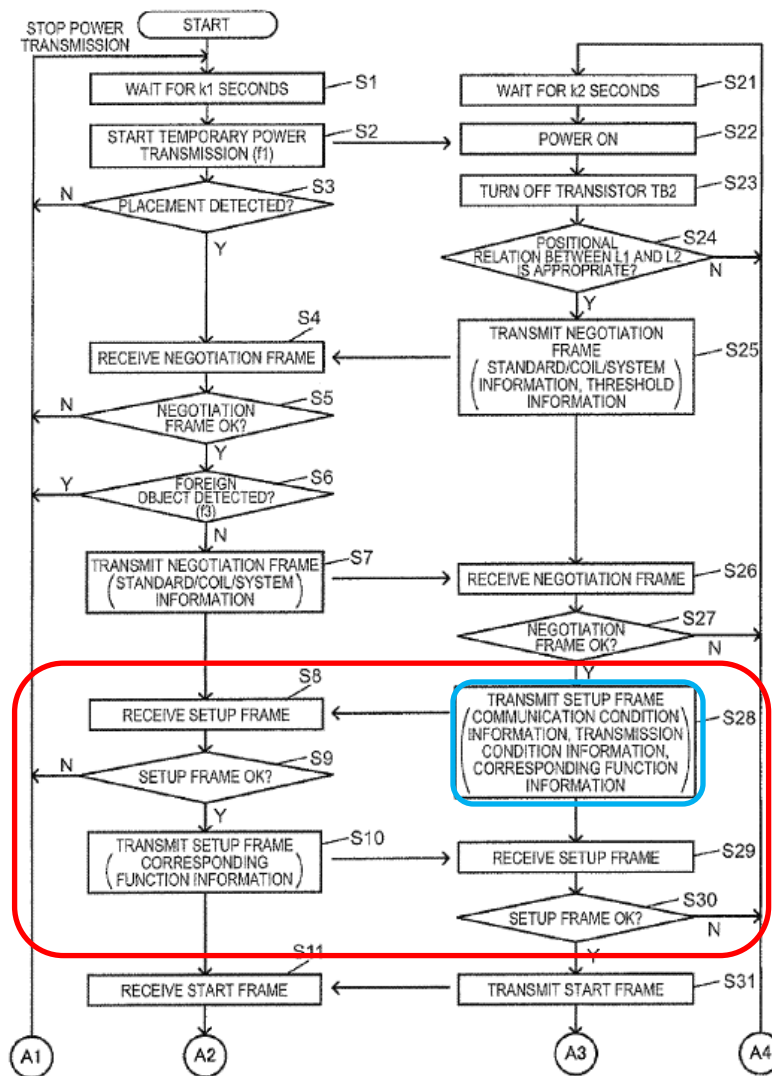


FIG.11

(Ex. 1005, Sogabe, FIG. 11).

In Fig. 11 above, the flow chart for the base system (left side) and the corresponding stage for the receiver (right side) are shown. Referring to its single mode of operation, Sogabe describes relaying a “communication condition information” (S28 – shown in a blue rectangle above – during the Setup Phase in

Fig. 11) from the receiver to the base system. This information is received by the base system in S8, prior to any power delivery to the battery of the electronic device (described in more detail below). Sogabe describes “communication condition information” as including information such as “communication method and communication parameters.” (Ex. 1005, Sogabe, 15:32-65). This information is described as sent from the receiver to the base system so that this information can be used in a subsequent phase (S46 described below) when power delivery to the battery of the device is initiated. Sogabe explains that:

In the power transmission control device, the communication condition setting section may receive *communication condition information* from the power receiving device so as to set the communication condition.

(Ex. 1005, Sogabe, 3:17-20).

In this way, information is exchanged in communication under the initial communication condition *before the start of the normal power transmission* so as to set communication condition after the start of the normal power transmission, whereby communication after the start of the normal power transmission can be performed by using the communication condition.

(Ex. 1005, Sogabe, 4:37-43).

Fig. 12 below shows the subsequent phases of operation. Only after multiple other steps, during S46 normal power transmission for charging the battery of the electronic device is begun. The entirety of steps 1-45 is accomplished with *no power*

delivery to the battery of the electronic device and cannot be considered a mode of operation as alleged by the Petitioner.

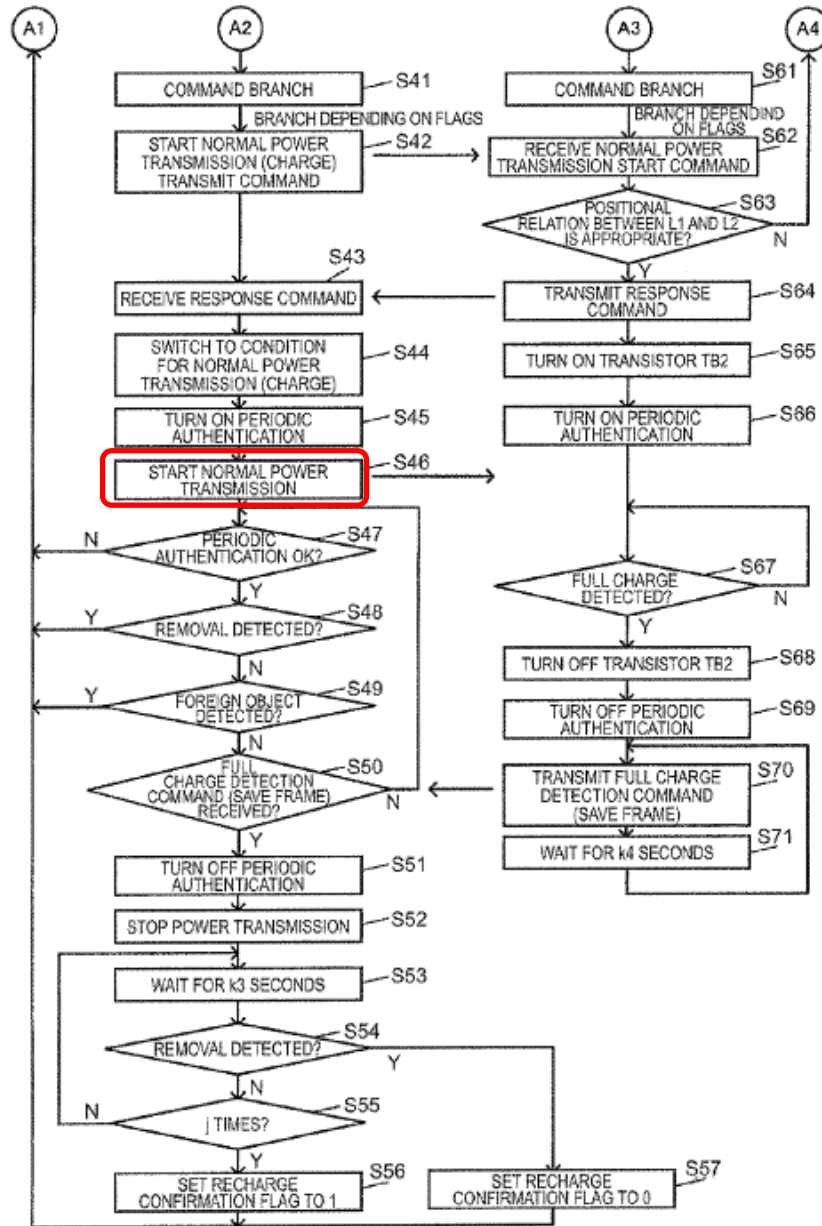


FIG.12

Petitioner argues that Sogabe’s “setup stage communication method,” which Petitioner admits occurs “before the start of normal power transmission” (Pet. at 22), represents the first mode of operation in Claim 1 and is somehow a separate and distinct protocol and mode of operation from that used when Sogabe is delivering power to the battery of the electronic device (after S46 above). But that is incorrect as the first mode of operation requires:

[1h] regulating power delivered to the battery of the electronic device in response to the received first communication; and

Sogabe only contemplated one mode of operation that includes delivering power to the battery of the electronic device after step S46. (*See* Ex. 1005, Sogabe, S46 in Fig. 12; Pet. at 23; *see also* Ex. 1005, Sogabe, FIG. 6 and corresponding description).

Similarly to Sogabe, Petitioner’s secondary reference, Azancot (Ex. 1006), also only taught or suggested a single mode of operation. Petitioner points to Ex. 1006, Azancot, 8:60-65, 9:58-63, 10:11-11:14, FIGs. 2a-2d, for the disclosures regarding Azancot’s mode of operation. (Pet. at 27-28). Unlike Sogabe there is not a single figure or excerpt from Azancot that describes the entire mode of operation of Azancot, though a POSITA would have understood Azancot’s disclosures as only teaching or suggesting one mode of operation for delivery of power to the battery of an electronic device. Furthermore, Petitioner seemingly agrees that Azancot

discloses only one mode of operation. (Pet. at 27-28 (stating “Azancot discloses uni-directional messaging from the power receiving device to the power transmitting device to control the power transmission.”) (citing Ex. 1006, 8:60-65, 9:58-63, 10:11-11:14, FIGs. 2a-2d.)).

A POSITA would have also understood Sogabe’s disclosures as only describing one mode of operation with no teaching or suggestion of interoperability between systems utilizing alternate modes of operation or protocols. As such a POSITA would also have understood that Sogabe and Azancot each only teach a single mode of operation and would not have been motivated to combine the references or had an expectation of success in the purported combination to achieve a multi-mode system as described in the claim. Significantly, the Petition fails to establish otherwise.

b. Sogabe’s setup stage occurs before any regulated power is delivered to the battery of the electronic device

Petitioner has admitted that the setup stage in Sogabe occurs “before the start of normal power transmission,” (Pet. at 23; *see also* Ex. 1005, Sogabe, 4:37-43), while each of Partovi’s claimed modes of operation are distinct modes using distinct protocols for delivering regulated power to the battery of the electronic device as per claim elements **[1h]** and **[1i]** below. *See* Claim 1 excerpts below (emphasis added).

[1d] a current detection circuit electrically coupled to the inductive charging coil; and

[1f] *operating in a first mode of operation using a first protocol*, wherein the first protocol is an inductive charging communication-and-control protocol that comprises uni-directional messaging, wherein the first mode of operation comprises:

[1g] *receiving, using the current detection circuit*, a first communication from the inductive charging receiver of the electronic device, wherein the first communication is based on the first protocol; and

[1h] *regulating power delivered to the battery of the electronic device in response to the received first communication*; and

[1i] *operating in a second mode of operation using a second protocol*, wherein the second protocol is an inductive charging communication-and-control protocol that defines bi-directional messaging, wherein the second mode of operation comprises:

...

[1l] *regulating power delivered to the battery of the electronic device in response to the received second communication*;

[1m] wherein *the first mode of operation is associated with a first power level* and *the second mode of operation is associated with a second power level*, and wherein the first power level and the second power level are different.

In contrast to the above claim sections, the setup phase communications Petitioner relies upon from Sogabe for describing a first mode of operation occur “*before the start of normal power transmission*,” (Pet. at 23), and Sogabe therefore cannot teach or suggest “*regulating power delivered to the battery of the electronic*

device in response to the received [first or second] communication.” (Ex. 1001, ’777 Patent, Claim 1, sub-sections [1h] and [1l]).

The Sogabe reference itself makes clear that the setup phase communications occur before power-on of Sogabe’s inductive charging coil for delivering power to the battery of the device. (See Ex. 1005, Sogabe, Figs. 11 and 12 (shown annotated below) (see Fig. 11 step S23 turning off transistor TB2 as shown in the red rectangle below, before the exchange of “communication condition information” (in steps S28 and S8, shown in the green rectangle below)).

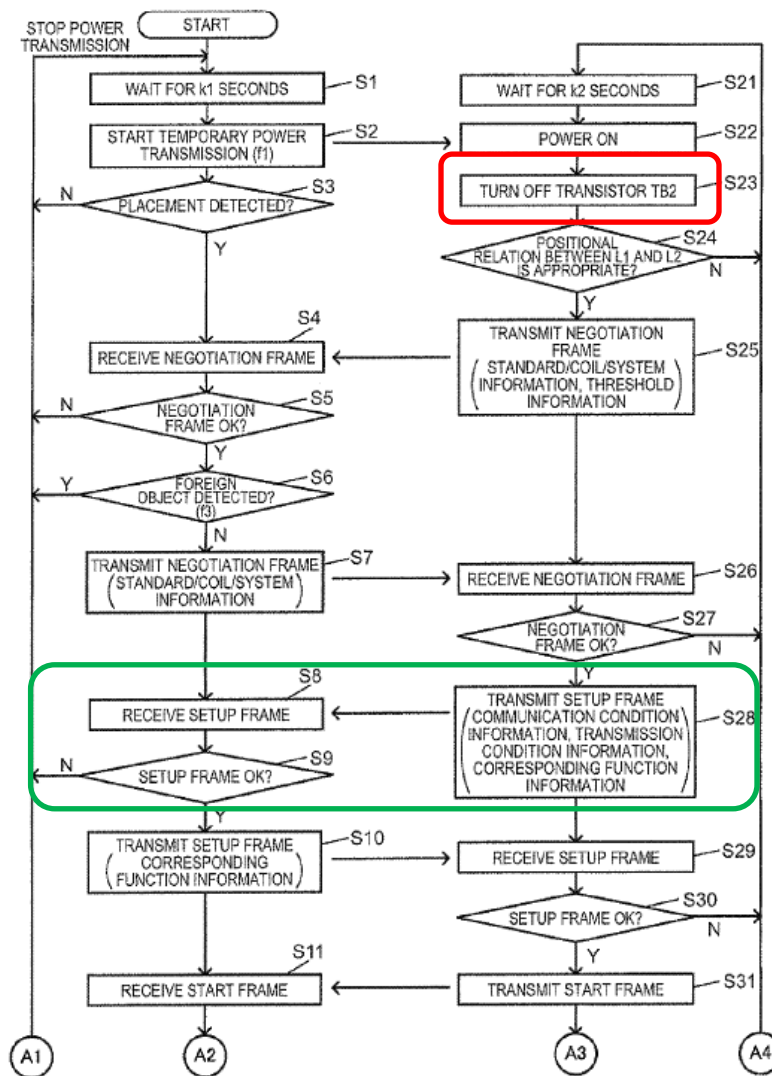


FIG.11

Fig. 9 below (annotated) shows the location of TB2 transistor in the receiver circuit. Turning off TB2 (red rectangle) disconnects the power receiving device 40 (i.e. receiver) from the load 90 (i.e. electronic device) and prevents flow of any current to the electronic device.

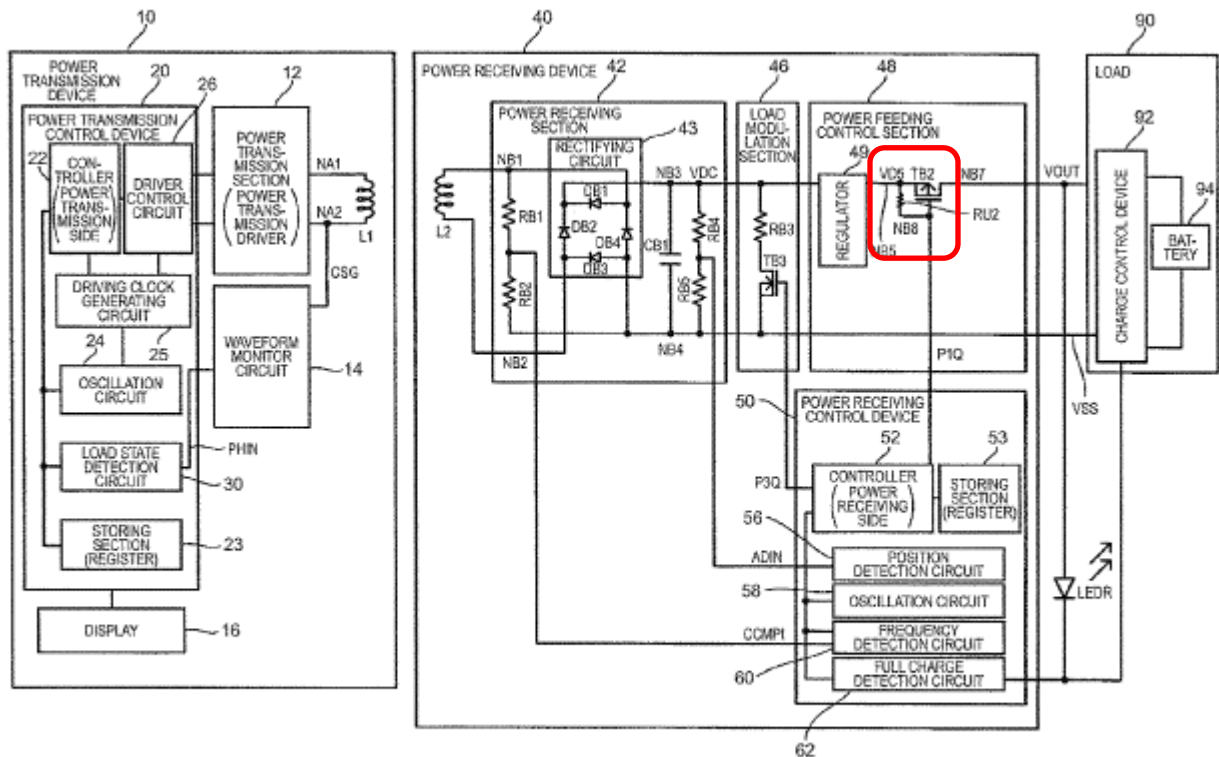


FIG. 9

Fig. 12 steps S44 and S65 below (annotated) show when transistor TB2 in the receiver is turned on to allow starting the normal power transmission from the base system to the receiver in step S46 (shown by red rectangle) and normal power transmission (i.e. delivery of inductive power to the battery of the device) by the base system begins in step S46 shortly thereafter (shown by green rectangle).

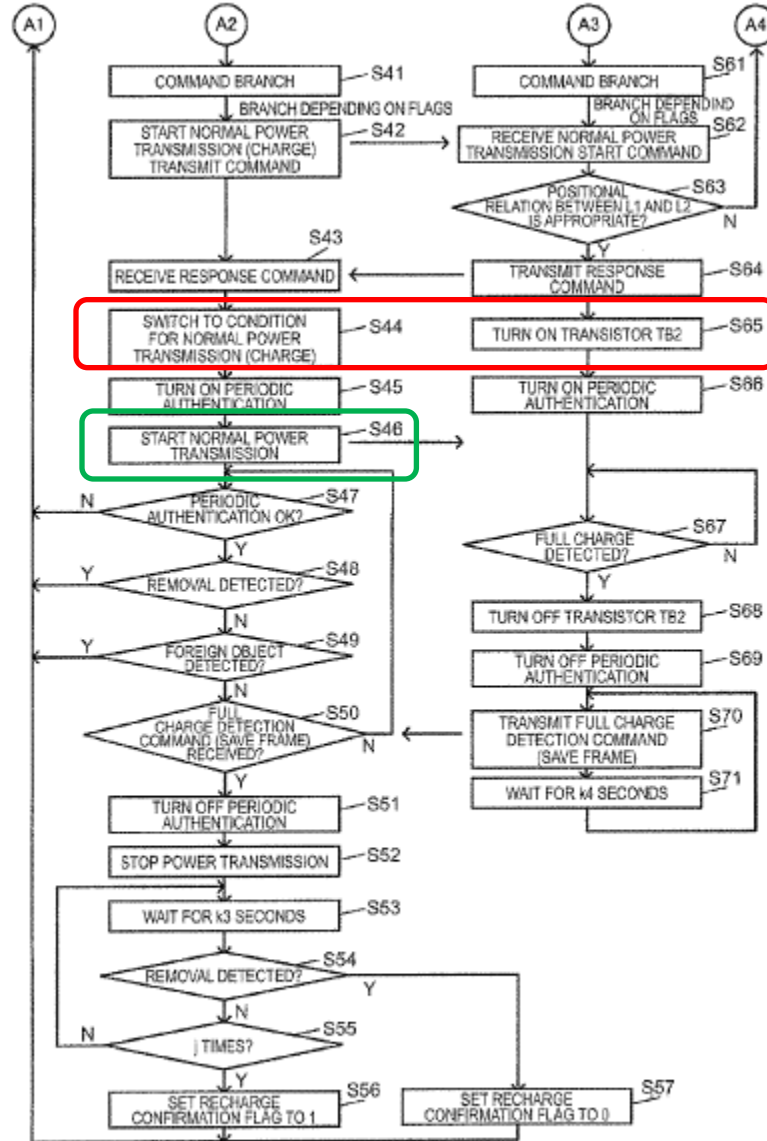
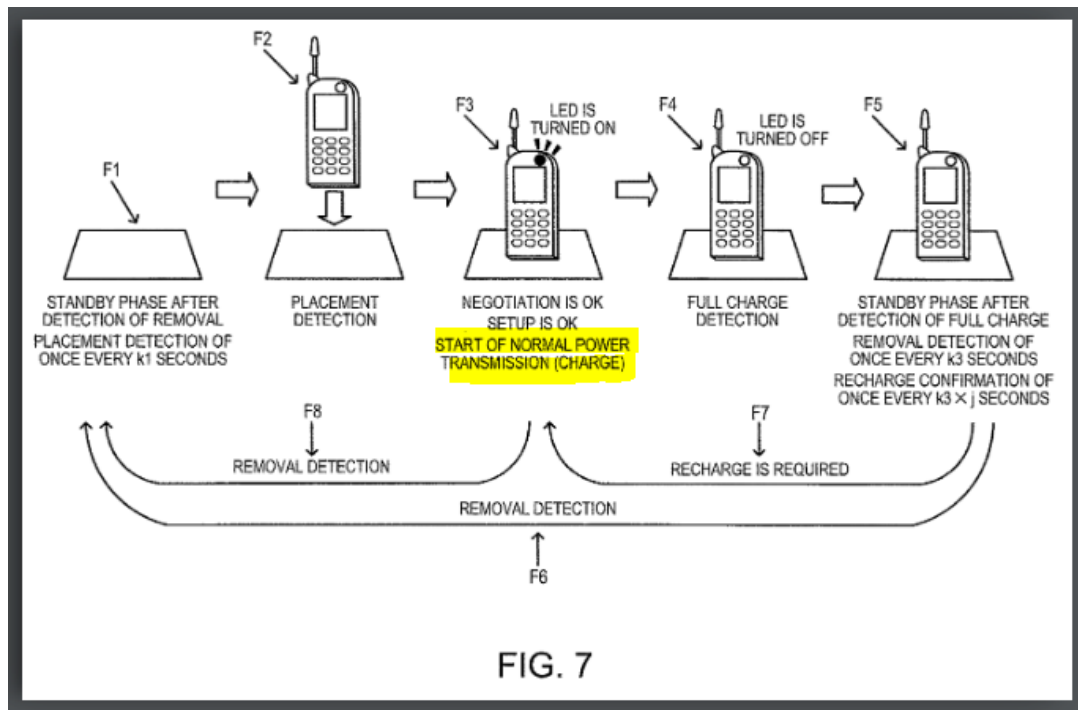


FIG.12

As shown and described in reference to Sogabe FIGS. 9, 11 and 12 (reproduced above), specifically within the “Power Feeding and Control Section 48,” turning off of the TB2 transistor disconnects the power output of the receiver

from the “Charge Control Device 92,” that is part of “Load 90,” (i.e. electronic device) and thereby prevents flow of any power to the electronic device “Battery 94”. (Ex. 1005, Sogabe, FIG. 9 and corresponding description; *see also* FIG. 7 (shown below) and corresponding description). After this step, Sogabe describes that a negotiation and setup phase follows including transmission of the “communication condition information” in step S28 (again referring to Sogabe FIG. 11) and the receipt of this information by the base system. (Ex. 1005, Sogabe, FIGS. 11 and 12 and corresponding description). Only after multiple other steps in step S65 (Sogabe FIG. 12) does Sogabe turn transistor TB2 back on at the receiver to allow power delivery to the battery of the electronic device and the base system begins “normal power transmission,” referring to step S44 of Sogabe Fig. 12. (*Id.*). Therefore, *during the entire set up process alleged by the petitioner to be a first mode of operation, the Sogabe power delivery system is electrically disconnected from the battery of the electronic device* and unable to provide any power to it. This phase of the operation of the Sogabe system can therefore in no way be considered a mode of operation as described in the claim.

Fig. 7 of Sogabe further confirms the above-described sequences of Sogabe’s setup and negotiation phases and subsequently the “start of power transmission.”



Thus, Sogabe, cannot meet claim elements [1f] to [1m] (as shown above) because Sogabe in the setup stage is not “*operating ... in a mode of operation ... and ... regulating power delivered to the battery of the electronic device in response to the received [first or second] communication.*” The Petition fails to establish otherwise.

- c. **Sogabe only regulates power delivered to the battery of the electronic device by the receiver and not by the base system**

Petitioner ignores the fact that the following claim limitations require the regulation of power delivered to the battery *by the base system*, whereas Sogabe only teaches *the receiver* itself regulating the power delivered to the battery. See

portions of Claim 1 shown below specifying that the base system (i.e., the charger) regulates the power delivered to the battery (emphasis added):

[1a] *A base system ... comprising:*

[1e] *a microcontroller, wherein **the microcontroller is configured for:***

[1f] operating in a first mode of operation using a first protocol, wherein the first protocol is an inductive charging communication-and-control protocol that comprises uni-directional messaging, wherein the first mode of operation comprises:

[1h] *regulating power delivered to the battery of the electronic device* in response to the received first communication; and

[1i] operating in a second mode of operation using a second protocol, wherein the second protocol is an inductive charging communication-and-control protocol that defines bi-directional messaging, wherein the second mode of operation comprises:

[1l] *regulating power delivered to the battery of the electronic device* in response to the received second communication;

Sogabe by contrast has the receiver side itself control the power delivered to the battery. Namely, Sogabe includes at the receiver side a “Power Feeding Control Section 48” (shown in a red rectangle added to Sogabe FIG. 9 below) in the power receiving device and a “Charge Control Device 92” (shown in a blue rectangle added to Sogabe FIG. 9 below) in the load, and these are the only power regulation mechanisms taught or suggested by Sogabe. *See generally* (Ex. 1005, Sogabe, including at least FIGS. 2-5, 9 and corresponding descriptions).

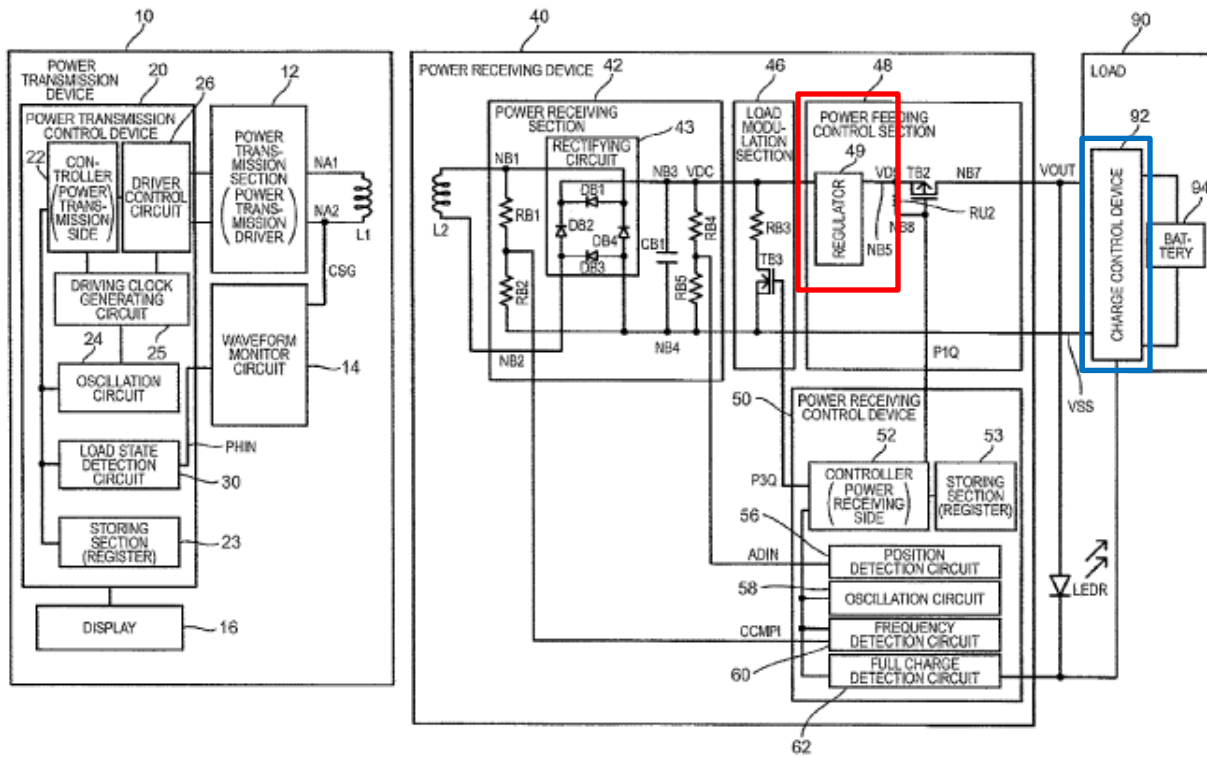


FIG. 9

Annotated Sogabe FIG. 9

Therefore, Sogabe cannot meet at least the aforementioned claim limitations which require regulation of power *by the base system*, responsive to at least the first and second communication. *See '777* Claim elements referenced above.

d. Sogabe only contemplates two-way communications

Petitioner alleges Sogabe discloses uni-directional messaging or that uni-directional messaging is somehow subsumed by Sogabe's described bi-directional communications (Pet. at 26), but this is inaccurate and Petitioner cannot meet at least the below claim limitations with Sogabe standing alone to demonstrate *uni-directional messaging from the receiver to the base system*.

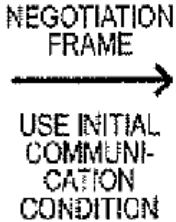
[1f] operating in a first mode of operation using a first protocol, wherein the first protocol is an inductive charging communication-and-control protocol that comprises *uni-directional messaging*, wherein the first mode of operation comprises:

[1g] receiving, using the current detection circuit, a first communication from the inductive charging receiver of the electronic device, wherein the first communication is based on the first protocol; and

[1h] regulating power delivered to the battery of the electronic device in response to the received first communication; and

Each embodiment of what Petitioner alleges to be Sogabe's inductive charging communication-and-control protocol only discusses bi-directional communications. (*See generally* Ex. 1005, Sogabe, including at least FIGS. 2-5, 6, 9 and corresponding descriptions). As an example, at each of the main phases of operation shown in Fig. 6 (i.e. Negotiation Phase, Setup Phase and Command Phase), the communication and control protocol utilized by Sogabe is bi-directional. Thus the base system and the receiver are designed and programmed to interact and respond to such a bi-directional communication protocol.

Collected and shown below is each snippet of the communications illustrated in Sogabe as occurring between the transmission device and the power receiving device during the different phases of Fig. 6, as explained in more detail in FIGS. 3A-5C . The communication and control in each phase reflect the bi-directional flow of information as shown.

Negotiation Phase	Setup Phase	Command Phase
 FIG. 3B	 FIG. 4A	 FIG. 5B
 FIG. 3C	 FIG. 4B	 FIG. 5C
	 FIG. 4C	

Further, a POSITA would not agree that a uni-directional messaging system from the receiver to the base system is subsumed by a bi-directional communications

system, as Petitioner suggests (Pet. at 26), because in a uni-directional messaging system the hardware and the communication and control protocol requires logical control mechanisms that are dependent on the one-way flow of messages only from one part of the system to the other part of the system. Sogabe's system's operation clearly depends on logical control mechanisms dependent on bi-directional communication. A uni-directional communication and control protocol cannot be simply considered a subset of a bi-directional communication and control protocol.

Ultimately Petitioner relies on Azancot as disclosing a uni-directional messaging communication-and-control protocol, but a POSITA would not combine Sogabe and Azancot because they present vastly different communication and control protocols, hardware and operational steps, and even if one were to attempt a combined Sogabe-Azancot system, such a system would not arrive at the claimed invention. This is discussed in detail in the sections that follow.

e. Azancot only contemplates one-way communications

Petitioner admits that Azancot only contemplates uni-directional communications through its “inductive energy coupling.” Pet. at 27-28. (citing Ex. 1006, Azancot). But the claim requires two modes, one of which uses uni-directional communication *and* the other of which uses bi-directional communication.

f. Neither Sogabe nor Azancot contemplates two modes with distinct power levels or distinct operating frequencies

Neither reference that Petitioner relies on teaches two modes of operation (they each only teach one mode) where each mode is associated with a *different power level* as required by the below claim element with regard to independent claim 1 or a *different operating frequency* as required by the below claim element with regard to independent claim 24 (noting claim 1 and claim 24 have unique differences with regard to these respective claim elements).

[1m] wherein the first mode of operation is associated with a first power level and the second mode of operation is associated with a second power level, and [1n] wherein *the first power level and the second power level are different*.

[24m] wherein the operating frequency for the first mode of operation is associated with a first frequency range and the operating frequency for the second mode of operation is associated with a second frequency range, and

[24n] wherein *the first frequency range and the second frequency range are different*.

The Petition provides no indication that Sogabe or Azancot (each of which describes a single mode of operation) could satisfy either of the above claim elements. Moreover, as next explained, it would not have been obvious to combine Sogabe and Azancot to arrive at the claimed multi-mode / protocol systems capable of two distinct modes of operation using distinct communication and control protocols and having two power levels *or* two operating frequencies.

2. The Petition fails to show that A POSITA would have been motivated to combine Sogabe and Azancot

It would not have been obvious to combine Sogabe and Azancot to arrive at the claimed invention, and a POSITA would have declined to make the combination, at least in part, based on the detrimental effects a combined system would have on the operation of the Sogabe system that relies on bi-directional communication between the base system and receiver. At the same time, since both Sogabe and Azancot each describe a single mode of operation, it would not have been obvious for a POSITA to combine them to arrive at the claimed multi-mode invention. For obviousness grounds, the Board must “consider whether a POSITA would have been motivated to combine the prior art to achieve the claimed invention and whether there would have been a reasonable expectation of success in doing so.” *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016) (internal quotation marks, brackets, and citation omitted).

As a primary roadblock for the combination Petitioner proposes, at the time of the invention, the general problem recognized by Partovi was the differing approaches, configurations, and protocols of the pre-existing wireless power transfer systems, and the resulting incompatibility between base systems and receivers of such systems, where a base system from one system could not charge a receiver from another system, and vice versa.

Notably, Sogabe and Azancot sought to address different problems than what Partovi set out to solve. Sogabe attempted to provide a system directed towards establishing a communication protocol between a base system and a receiver before providing power for charging, while Azancot attempted to provide a method for monitoring the efficiency of inductive power transfer systems. Each of these systems would have had the operating mode and protocol incompatibility problems that Partovi sought to address with the claimed inventions of the '777 Patent. Further, neither Sogabe nor Azancot contemplated the multi-mode operation problem itself and as such, neither reference discusses or teaches solutions to any of the challenges that would need to be overcome to solve the problem for multi-mode power delivery with two different power levels (per independent claim 1) or two different operating frequencies (per independent claim 24). The idea of combining Sogabe and Azancot to solve a problem that both references actually have themselves, and that neither considered as a potential problem, is nonsensical and a POSITA would not have been motivated to combine these references for at least these reasons standing alone.

Notably, there exist further technical reasons relating to the implementations of Sogabe and Azancot that dictate why a POSITA would not have combined these systems. For example, as mentioned *supra*, in each and every embodiment of Sogabe, the regulation mechanism consisting of a regulator 49 and a charge control device 92 is configured on the receiver side, in the “power receiving device” and/or

the “load,” such that any regulation of power output is only part of and in the domain of the receiver side, not the base system (as is required by the claims of Partovi in the ’777 patent). (*See generally* Ex. 1005, Sogabe, including at least FIGS. 2-5, 9 and corresponding descriptions). By contrast, Azancot is described to have the opposite configuration of Sogabe, where any power level control is taught to be in the exclusive domain of the transmitting device (the base system side). This goes to the purpose of Azancot as well, which is, as Azancot is titled, to be an “Efficiency Monitor for Inductive Power Transmission.” (Ex. 1006, Azancot).

Part and parcel of Azancot’s purpose of being an “efficiency monitor” is to measure the power being used on the base system side and to use that measurement to calculate the efficiency of power transfer and then to make control decisions about turning wireless transfer on and off based on those efficiency calculations. (*See e.g.* Ex. 1006, Azancot, 4:11-37, 12:7-50; Figs. 5-7 and corresponding descriptions). The petitioner fails to describe with any detail how such a combined system with regulation by both the base system (as in Azancot) and the receiver (as in Sogabe) would operate. A POSITA, acknowledging the technical configuration of Sogabe, with power control exclusively configured on the receiver side, and the technical configuration of Azancot, with power control exclusively configured on the base system side, would not have combined the two references. The Petition fails to address this or establish otherwise.

3. The Petition fails to adequately explain how a combined Sogabe and Azancot system would function

Moreover, the Petitioner has failed to adequately explain how a combined Sogabe and Azancot system would function. Sogabe and Azancot are both described to have unique and proprietary communications protocols, hardware and operational steps, and any combination of such systems would necessarily require a detailed explanation of how they might function together as a single system. Further complicating this issue is that Sogabe's bi-directional setup communication occurs during no power delivery to the electronic device, while Azancot's uni-directional communications occur during power delivery. One example of why such a combined system would fail to function is that Sogabe is reliant on bi-directional communications where each device *waits* for communications from the other device to be received and processed, and *then* the system of Sogabe makes control decisions based upon those received communications. (*See* Ex. 1005, Sogabe, FIGS. 3A to 5C and FIG. 6 and corresponding descriptions). An exchange of Sogabe's system with the uni-directional system of Azancot, without substantial changes to the hardware and software design, control units, and logic flows, would ultimately not function. (*See generally* Ex. 1005, Sogabe, including at least FIGS. 2-5, 9 and corresponding descriptions). The two systems are therefore incompatible in terms of communication protocol and communication phases. Petitioner does not adequately

address the details of how such a combination would be made and further does not endeavor to explain how the combined system would function.

Petitioner gives little reasoning as to motivation to combine Sogabe and Azancot besides stating that a POSITA would have been motivated to combine features from Azancot into Sogabe, including those that do not even relate to Petitioner's relied upon disclosures of Azancot. (Pet. at 38-39 (referencing Azancot features such as "efficient power transfer" and "communications regarding temperature')). Further, in regard to explaining how the two systems would be combined or function-as-combined, Petitioner merely states that "a POSITA would have had a reasonable expectation of success." (*Id.*) In these two paragraphs from the Petition, Petitioner does not meet its burden in explaining the proposed combined system.

"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) where in evidence, so-called secondary considerations." *Apple Inc. v. Yu*, IPR2019-01258, Paper No. 29 at 39 (PTAB Jan. 5, 2021) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)). Neither the Petition nor Dr. Baker's declaration attempt to identify differences between the claimed subject matter and

the prior art, and neither discusses what obviousness-related modifications would be needed to combine Sogabe and Azancot.

4. **The Petition fails to show that combining Sogabe and Azancot would result in the system of independent claims 1 and 24—it would not**

As discussed in the sections prior, the claims of the '777 patent require a system capable of regulating power *by the base system side* under at least two distinct modes of operation. The language from '777 patent Claim 1 below reflects this (emphasis added).

[1a] *A base system ... comprising:*

[1e] *a microcontroller*, wherein *the microcontroller is configured for:*

[1f] operating in a first mode of operation using a first protocol, wherein the first protocol is an inductive charging communication-and-control protocol that comprises uni-directional messaging, wherein the first mode of operation comprises:

[1h] *regulating power delivered to the battery of the electronic device* in response to the received first communication; and

[1i] operating in a second mode of operation using a second protocol, wherein the second protocol is an inductive charging communication-and-control protocol that defines bi-directional messaging, wherein the second mode of operation comprises:

[1l] *regulating power delivered to the battery of the electronic device* in response to the received second communication;

As discussed in the prior sections, in each embodiment of Sogabe, the regulation mechanism is only configured on the *receiver* side. (See *supra* Section IV.B.2). By contrast and as also previously explained *supra*, Azancot is described to

have the opposite configuration of Sogabe, where any power level control or regulation is taught to be in the exclusive domain of the base system. This goes to the purpose of Azancot, which is, as Azancot is titled, to be an “Efficiency Monitor for Inductive Power Transmission.” Part and parcel of Azancot’s purpose of being an “efficiency monitor” is to measure the power being used on the base system side and to use that measurement to calculate the efficiency of power transfer and then to make control decisions about when to turn wireless power transfer from the power transmission device on and off based on efficiency parameters. (*See e.g.* Ex. 1006, Azancot, 4:11-37, 12:7-50; Figs. 5-7 and corresponding descriptions).

Thus, Petitioner’s proposed combined Sogabe-Azancot system would necessarily yield one protocol with power regulation only by the base system side and one protocol with power regulation only by the receiver side. Thus, the combined system would fail to meet at least the limitations of the claim sections set out above that require two operational protocols where the microcontroller on the base system side is regulating the power delivered to the battery of the electronic device. (Ex. 1001, ’777 Patent, Claim 1).

C. Grounds 2-4 Are Insufficient For the Same Reasons As Ground 1

Grounds 2-4 are directed to dependent claims 6-8 (dependent on claim 1), and Grounds 2-4 depend on Ground 1 with respect to claim 1. Thus, institution of

Grounds 2-4 should be denied on any one of the same bases as with respect to Ground 1.

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.*

CERTIFICATE 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 10,171 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

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S PRELIMINARY RESPONSE** is being served 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