

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.
Petitioner,

v.

WIPQTUS INC.
Patent Owner.

Case No. IPR2024-00023
Patent No. 10,038,339

PATENT OWNER WIPQTUS INC.'S RESPONSE

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I. SUMMARY OF PATENT OWNER'S RESPONSE

At issue is whether the challenged Claim 1, the only independent claim at issue, of U.S. Patent No. 10,038,339 (the "'339 Patent"), and dependent Claims 2, 3, 5, 7 and 9 ("Dependent Claims") (Claim 1 and Dependent Claims referred to as "Challenged Claims") are invalid under the only ground asserted, the combination of Chatterjee and Corbridge (the "Ground"). The Board should find that Petitioner has failed to meet its burden of proof to show invalidity of Claim 1 and the Dependent Claims for at least three reasons.

First, Petitioner has failed to meet its burden of proof by not providing any claim construction when it should have known that the "impedance network" and "switch network" had no well understood meanings standing alone. Further, the Board in its Decision Granting Institution [Paper 7] (the "Decision") rejected Patent Owner's constructions. The Board erred in doing so at least because its construction of "impedance network" and "limitation [1.e] ignored other limitations in Claim 1, such as limitations [1.d] and [1.f]. The Board also erred by relying on Claim 3 and other new matter that appears in the '339 Patent but not in the '312 Provisional.

Second, Petitioner relied on a legally wrong methodology in evaluating obviousness. Instead of evaluating the Claim 1 as a whole, Petitioner and its expert evaluated each "limitation" as to whether or not it was obvious. By failing

to discuss the second *Graham* factor, the differences between references relied upon, and then explain why Claim 1 viewed as a whole would have been obvious, the Petitioner failed to meet its burden.

Third, the invention of Claim 1 is not rendered obvious under a proper construction of at least the terms (1) "coil," (2) "impedance network;" (3) "switch network," and (4) limitation [1.e], "said first circuitry ... configured to change impedance of said impedance network ... to obtain a modified form of said received power... ." This is because neither Chatterjee nor Corbridge alone or in combination disclose an "impedance network" separate from the "coil" and "switch network" that can be "configured to change impedance" during the receiving power mode. In view of the limitations that are missing from the combination of the Ground even assuming a motivation to combine, Claim 1 is not rendered obvious.

II. RELATED PROCEEDINGS

On February 14, 2023, WiPQTUS Inc. (the "Patent Owner" or "WiPQTUS") filed its Complaint asserting infringement of Claims 1 and 2 of the '339 Patent against Samsung Electronics Co., Ltd. ("Petitioner") and Samsung Electronics America, Inc. in Case 2:23-cv-00054-RWS-RSP in the United States District Court for the Eastern District of Texas (the "Litigation"). On December 26, 2023, Renesas Electronics America Inc. intervened and WiPQTUS answered. *See* [Dkt.

48; Dkt. 56]. On March 14, 2024, the Board issued its Decision instituting trial. On March 21, 2024, the Court stayed the Litigation pending the Board's Final Decision in this matter. [Dkt. 73].

III. FACTUAL BACKGROUND

A. Overview of the State of the Art In 2012

Petitioner relies heavily on the Wireless Power Transfer ("WPT") Standard (also known as "Qi"), Vol. 1, Part 1, Version 1.0.3, dated September 2011, which was attached as Exhibit 1008, in discussing the state of the art in 2012. Petitioner attempts to give the impression that wireless power charging in 2012 was much more mature than it actually was.

For example, Petitioner states that the Qi Standard, "a widely adopted interface standard for near field wireless power transfer using inductive charging, was first released in 2009, years before the earliest possible effective filing date of the '339 Patent on August 13, 2012." Petition, p. 2. In 2009 and indeed in 2012, the Qi standard was not the only standard under development. *See* Ex. 2003, Declaration of Dr. Randal H. Direen in Support of Patent Owner's Response (the "Direen II Decl." or "Exhibit 2003"), Section VII.

As of 2012, there were no clear winners as to a wireless power standard. By 2012, there were at least three other industry consortia in existence formed for the

same purposes for which the WPC was formed. Ex. 2003, ¶ 66. These were as follows: "Power Matters Alliance" ("PMA") (see Ex. 2003, ¶ 69); the Alliance for Wireless Power (Ex. 2003, ¶ 70); and the Wireless Charging Technology consortium. Ex. 2003, ¶ 71. The "Power Matters Alliance" was started in part by Powermat Technologies Ltd., which company is referenced in the Paragraph [0001] of the '312 Application. See Ex. 2003, ¶ 69. Other companies were developing proprietary standards. Ex. 2003, ¶¶ 72 - 74. While today the WPC's standards (including the "Qi" standard) are by far the dominant set of standards in the space, as of August 2012 this was not yet the case. Ex. 2003, ¶ 64. The '339 Patent must be evaluated independently of the "Qi" standard.

B. Overview of the '339 Patent

1. '312 Provisional Application and Parent '929 Patent

The '339 Patent issued from Application No. 15/095,070, which is a *continuation-in-part* of Application No. 13/964,310, filed on August 12, 2013, which issued as U.S. 9,343,929 (the "'929 Patent"). The '339 Patent also claims priority to U.S. Provisional Application No. 61/682,312, filed August 13, 2012. Ex. 2004.

The '312 Provisional and '929 Patent only included the Figures found in the '339 Patent through Figure 7B. See, e.g., Ex. 1007, p. 45 of 152 (file history of

'929 Patent); Ex. 2003, ¶ 39. Figures 8A – 10H, and 17:30 – 26:67 do not appear on the '929 Patent or the '312 Provisional. Exs. 2001; 2004. As will be shown below, Claims 1 and 2 are well-supported by the '312 Application, and are entitled to its filing date, August 13, 2012, as their effective filing date.

2. Prosecution History

The claims of the '339 Patent were allowed in the first office action in view of four prior art references. The examiner's allowance demonstrates that the inventions were patentable over the prior art.

3. Overview of Claim 1 of the '339 Patent

The Board in its Decision (pp. 15 - 16) correctly stated Claim 1. Patent Owner will use the Board's reference numbers (1.a, 1.b, etc.) herein.

Petitioner stated that the preamble is limiting, and WiPQTUS agrees. Petition, p. 16. The phrase "a dual mode wireless power receiver" captures one of the patentable aspects of the invention – an all-in-one chip that not only receives power but also receives communications from and wirelessly transmits power to another device, a "secondary wireless power receiver."

The single all-in-one "dual mode wireless power receiver" of Claim 1 was comprised of three primary components: (1) a coil... (limitation [1.a]); (2) first circuitry (1.b); and (3) second circuitry (1.c). Further, Claim 1 clearly sets forth

the three components of the "first circuitry," which components are distinct from the coil: (1) impedance network, and (2) switch network, and (3) a filter capacitor. Petitioner's highlighting of Figure 1 of the '339 Patent is especially helpful in distinguishing these components:

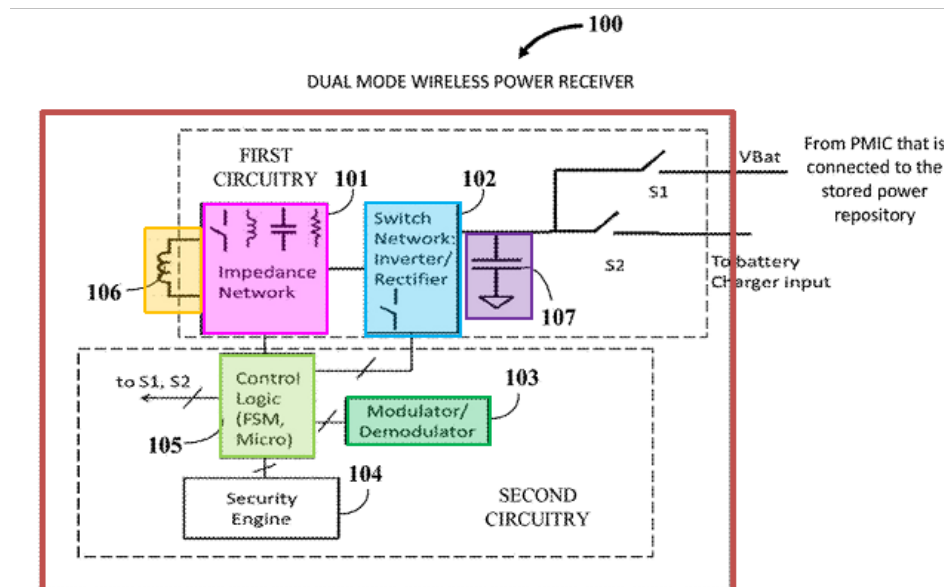


FIG. 1

Petition, p. 10. As shown, the inductor coil 106 (yellow) is distinct from the "impedance network" (shown in magenta). Likewise, the "impedance network" (magenta) is distinct from the "Switch Network: Inverter/Rectifier" 102 (shown in blue).

The Claim in limitations [1.d] - [1.i] recites critical functionality, including:

[limitation [1.e)] said first circuitry, based on an input from said control logic circuit, ***configured to change impedance of said impedance network***

and topology of said switch network ***to obtain a modified form of said received power***, and apply said modified form of said power to said load device;

As shown by the highlighted portion, the claimed "impedance network" must be capable of changing its topology to provide a different impedance while in at least the receiving power mode. This limitation will be addressed below.

In interpreting Claim 1, one must understand that the claim is written from a particular viewpoint. The "dual mode wireless power receiver" is first described as being configured to receive power (limitations [1.p] and [1.d]). Ex. 2003, ¶ 113. Therefore, limitation [1.e] must be read in the context of the preamble and limitation [1.d], and in this light, it is clear that limitation [1.e] requires that the "impedance of the impedance network" be capable of being changed while in the receiving power mode.

The limitation that follows, [1.f], addresses changing the dual mode wireless power receiver from the receiving mode to the communicating/providing power mode wherein power is provided to a "secondary wireless power receiver."

The last three claim limitations [1.g] - [1.i], recite certain functions of the dual mode wireless power receiver once the receiver has been configured to communicate and transmit power mode to the secondary wireless power receiver.

C. Effective Filing Date for Claims 1 and 2 is August 13, 2012

The Board noted that it is the Patent Owner's burden to establish the benefit of priority based on an earlier filed application. Decision, p. 16, n. 2. The Board incorrectly stated that:

Patent Owner does not contend that any challenged claim enjoys the benefit of priority based on U.S. Provisional Application No. 61/682,312 filed on August 13, 2012.

Decision, p. 17. To the contrary, Patent Owner **does** contend that Claims 1 and 2 are entitled to the effective priority date of August 13, 2012.

The effective filing date does **not** matter as to whether Chatterjee and Corbridge are prior art. The earliest potential priority date, the date of conception, is mid-July 2012. Both published before that date. However, for claim construction the effective filing date **does** matter since claims are to be construed as of the effective filing date. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*); see Section VI(B)(2) below.

As will now be shown, Claims 1 and 2 of the '339 Patent are entitled to August 12, 2012 as their effective filing date. Furthermore, the Challenged Dependent Claim 3, on which Petitioner and Board relied upon in construing Claim 1, as well as Dependent Claims 5, 7, and 9 have as their effective priority date April 10, 2016.

The legal test for whether an invention is entitled to the filing date of a provisional was explained in *Dynamic Drinkware* as follows:

[T]he specification of the provisional must 'contain a written description of the invention and the manner and process of making and using it, in such full, clear, concise, and exact terms,' 35 U.S.C. § 112 ¶ 1, to enable an ordinarily skilled artisan to practice the invention claimed in the non-provisional application." *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1294 (Fed.Cir.2002) (emphases in original).

Dynamic Drinkware, LLC v. National Graphics, Inc., 800 F.3d 1375, 1378 (Fed. Cir. 2015); *see also Moba, B.V. v. Diamond Automation*, 325 F.3d 1306, 1320-21 (Fed. Cir. 2003) (stating the test as whether the specification shows that the inventor possessed the invention). As correctly noted by Board (Decision, p. 17, n. 2), the effective filing date of claims in a continuation-in-part application must be determined on a claim-by-claim basis. *See Santarus, Inc. v. Par Pharmaceutical, Inc.*, 694 F.3d 1344, 1352 (Fed. Cir. 2012); *Natural Alternatives International, Inc. v. Iancu*, 904 F.3d 1375, 1383 (Fed. Cir. 2018); *see also Technology Licensing Corp. v. Videotek, Inc.*, 549 F.3d 1316, 1324 (Fed. Cir. 2008) (noting that "priority date" is "more accurately" referred to as "effective filing date.").

There are two distinct burdens of proof, a burden of persuasion and a burden of production. *Dynamic*, 800 F.3d at 1379. The burden of persuasion "never shifts to the patentee." *Id.* As to whether a claim is entitled to the filing date of a provisional, the burden of initial production is on the Patent Owner. *Id.* However,

once the Patent Owner meets its burden of production, the burden of shifts back to the Petitioner to prove by a preponderance of the evidence that the claim is not entitled to the benefit of an earlier filed provisional. *Id.*

The following chart shows the written description found in the '312 Provisional that supports August 12, 2012 as the effective filing date for Claims 1 and 2:

Ref. No.	Claim 1	'312, Claim 1	'312 Spec
1.p	A dual mode wireless power receiver configured to selectively apply a received power to a load device and utilize at least a part of the stored power to power-up a secondary wireless power receiver and communicate with said secondary wireless power receiver to cause an action or transaction or charge said secondary wireless power receiver's load device, said dual mode wireless power receiver comprising:	A dual mode wireless charging receiver configured to selectively apply a received power to a load device and utilize at least a part of said power to power-up, communicate, and charge a secondary wireless power receiver, said dual mode wireless charging receiver comprising:	[0002] ("The actions and transactions are, for example... .").

1.a	one of coil and capacitor electrodes;		Figs. 1, 2A, 5A, 5B (element 106); p. 8, ¶ [0023] ("The coil ... is used to wirelessly transmit ... power to the secondary wireless power receiver 300 via a magnetic field... ."); pp. 10 - 11 ¶ [0027] ("receiver coil 106"); p. 12, ¶ [0030].
1.b	a first circuitry comprising: [i] an impedance network;	a first circuitry comprising: an impedance network;	Abstract; p. 2, ¶ [0004]; p. 4, ¶ [0007]; p. 8, ¶ [0023].
1.b	a switch network;	a switch network;	Abstract; p. 2, ¶ [0004]; p. 4, ¶ [0007]; p. 8, ¶ [0023]; p. 11, ¶ [0029]; p. 12, ¶ [0030]; p. 13, ¶ [0033]; p. 14, ¶ [0036]; p. 16, ¶ [0039], p. 18, ¶ [0041]; p. 19, ¶¶ [0043 - 46]; p. 20, ¶ [0047].
1.b	a filter capacitor;	a filter capacitor; and one or more switches;	Abstract; p. 2, ¶ [0004]; p. 4, ¶ [0007]; p. 8, ¶ [0023];

1.c	a second circuitry comprising: a control logic circuit; and	a second circuitry comprising: ["a security engine" omitted] a control logic circuit; and	Abstract ("control logic circuit"); p. 2, ¶ [0004]; p. 4, ¶ [0007]; p. 9, ¶ [0024] and [0025]; p. 11, ¶ [0029]; p. 14, ¶ [0036]; p. 16, ¶ [0039]; p. 18, ¶ [0041].
1.d	said first circuitry configured to receive said power from a wireless power transmitter;	said first circuitry configured to receive said power from a wireless power transmitter;	p. 2, ¶ [0004] ("In the charging mode, dual mode wireless charging receiver configures the first circuitry to receive the power..."); p. 4, ¶ [0007].
1.e	said first circuitry, based on an input from said control logic circuit, configured to change impedance of said impedance network and topology of said switch network to obtain a modified form of said received power, and apply said modified form of said power to said load device;	said first circuitry, based on an input from said control logic circuit, configured to change impedance of said impedance network and topology of said switch network to obtain a modified form of said received power, and apply said modified form of said power to said load device;	p. 2, ¶ [0004] ("change the impedance of the impedance network ... to obtain a modified form of the received power"); p. 4, ¶ [0007]; p. 13, ¶ [0032].
1.f	said first circuitry, based on an input	said first circuitry, based on an input	p. 2, ¶ [0004] ("to change the

	from said control logic circuit, configured to change said topology of said switch network and said impedance of said impedance network to transmit at least part of said stored power to said secondary wireless power receiver to power-up said secondary wireless power receiver;	from said control logic circuit, configured to change said topology of said switch network and said impedance of said impedance network to transmit at least part of said modified power to said secondary wireless power receiver to power-up said secondary wireless power receiver;	topology ... to transmit at least part of modified power to secondary wireless power receiver to power-up the secondary wireless power receiver"); p. 5, ¶ [0007]
1.g	said second circuitry, on power-up of said secondary wireless power receiver, configured to identify a type of said secondary wireless power receiver and identify a wireless power protocol of said secondary wireless power receiver;	said second circuitry configured to identify a type of said secondary wireless power receiver and identify a wireless power protocol of said secondary wireless power receiver;	pp. 2 - 3, ¶ [0004]. pp. 4 - 5, ¶ [0007], pp. 12 - 13, ¶ [0032], pp. 14 - 15, ¶ [0036]; pp. 16 - 17, ¶ [0039]; pp. 17 - 18, ¶ [0041]; p. 13, ¶ [0032]; p. 14, ¶ [0036]; p. 16, ¶ [0039]; p. 18, ¶ [0041].
1.h	said second circuitry, configured to receive and interpret data from said secondary wireless power receiver in said identified wireless power protocol;	said second circuitry, on power-up of said secondary wireless power receiver, configured to perform one of:	Abstract; pp. 3 - 4, ¶ [0005], pp. 5 - 6, ¶ [0008]; p. 8, ¶ [0023]; p. 10, ¶ [0026]; pp. 13 - 14, ¶ [0034]; pp. 16 - 17, ¶ [0039]

		receiving and interpreting said data from said secondary wireless power receiver in said identified wireless power protocol; ["providing authentication information..." and "initiating exchange of said authentication information..." omitted].	
1.i	said second circuitry, based on said interpretation, configured to perform a function associated with said transmitted power in conjunction with said first circuitry.	receiving and interpreting a request from said secondary wireless power receiver and performing a function associated with said transmitted power in conjunction with said first circuitry.	pp. 17 - 18, ¶ [0041] (re. "functions").
2	2. The dual mode wireless power receiver of claim 1, wherein said switch network of said first circuitry is configured as one of an inverter and a rectifier.	2. The dual mode wireless charging receiver of claim 1, wherein said first circuitry is configured as one of an inverter and a rectifier.	p. 3, ¶ [0004]; p. 8, ¶ [0023]; p. 11, ¶ [0029]; p. 19, ¶ [0042]; p. 19, ¶¶ [0045 - 45]

Ex. 2004. In addition to the text cited above, Figures 1 - 2A; 3; 5A – 5 are the same. Ex. 2003, ¶¶ 36-37. Figures 4A-D contain slight but immaterial changes. *Id.* Figures 6A – 7B all purport to show a "switch network" in both the '312 Provisional and '339 Patent, and include immaterial changes. *Id.* A person of skill in the art would recognize that the '312 Provisional contains a written description of the inventions of Claims 1 and 2 of the '339 Patent that would enable the POSITA to practice the claimed inventions. Ex. 2003, ¶ 44. Therefore, the effective filing date for Claim 1 and 2 is August 13, 2012. *Id.*

In contrast, Claim 3, which Petitioner and the Board heavily relied upon to construe Claim 1, is not supported by the '312 Application.¹ Claim 3 adds the limitation is as follows: "wherein said impedance network ... comprising the elements that are one of chosen a priori with fixed values and tuned during operation over a range of values." '339 Patent, 27; 47-51. The only references to "a priori with fixed values" and "tuned" are found in the new material found in the '339 Patent. Ex. 2003, ¶ 43. Therefore, the effective filing date for Claim 3 is April 10, 2016.

¹ Regarding Dependent Claims 5, 7, and 9, neither the Petitioner nor the Board have identified any issue that turns on the priority date of these Challenged Dependent Claims. Patent Owner reserves the right to establish the 2012 priority date if an issue arises that turns on the effective date of those claims.

IV. OVERVIEW OF PETITIONER'S SINGLE GROUND, THE COMBINATION OF CHATTERJEE AND CORBRIDGE

A. Summary of the Single Ground at Issue

The following chart summarizes the Petitioner's position on whether a particular limitation is found in Chatterjee or Corbridge:

Pet. No.	Claim 1	Chatterjee	Corbridge
1.p	a dual mode wireless power receiver configured to selectively apply a received power to a load device and utilize at least a part of the stored power to power-up a secondary wireless power receiver and communicate with said secondary wireless power receiver to cause an action or transaction or charge said secondary wireless power receiver's load device, said dual mode wireless power receiver comprising:	Chatterjee (Petition, p. 16).	
1.a	one of coil and capacitor electrodes;	Chatterjee (p. 22) ("expressly discloses coil").	

1.b	a first circuitry comprising: [i] an impedance network;	Chatterjee (p. 25) ("Chatterjee's bi-directional coil assembly discloses the claimed "impedance network").	
1.b	a switch network;	Chatterjee (pp. 25; 32) ("its power bridge circuit discloses claimed "switch network").	
1.b	a filter capacitor;	Chatterjee (p. 25) ("its power circuit discloses the claimed "filter capacitor").	
1.c	a second circuitry comprising: a control logic circuit; and	Chatterjee (p. 35) ("Chatterjee's processor 413 teaches the claimed 'control logic circuit'").	
1.c	a modulator/ demodulator circuit;	Chatterjee (p. 35; also 38) ("its communication circuit 414 comprises a modulator 416 and demodulator 417").	
1.d	said first circuitry configured to receive said power from a wireless power transmitter;	"Chatterjee <i>in view of the knowledge of the POA</i> renders obvious this	

		limitation." (p. 39).	
1.e	said first circuitry, based on an input from said control logic circuit, configured to change impedance of said impedance network and topology of said switch network to obtain a modified form of said received power, and apply said modified form of said power to said load device;	"Chatterjee <i>in view of the knowledge of POSA</i> renders obvious this limitation." (p. 40).	
1.f	said first circuitry, based on an input from said control logic circuit, configured to change said topology of said switch network and said impedance of said impedance network to transmit at least part of said stored power to said secondary wireless power receiver to power-up said secondary wireless power receiver;	"Chatterjee <i>in view of the knowledge of POSA</i> renders obvious this limitation." (p. 43).	
1.g	said second circuitry, on power-up of said secondary wireless power receiver,		"Chatterjee in view of Corbridge and the knowledge of

	configured to identify a type of said secondary wireless power receiver and identify a wireless power protocol of said secondary wireless power receiver;		POSA renders obvious Limitation [1.g.]." (p. 46).
1.h	said second circuitry, configured to receive and interpret data from said secondary wireless power receiver in said identified wireless power protocol;		"Chatterjee in view of Corbridge renders obvious this limitation." (p.55).
1.i	said second circuitry, based on said interpretation, configured to perform a function associated with said transmitted power in conjunction with said first circuitry.	"Chatterjee in view of knowledge of POSA renders obvious this limitation." (p. 57).	

This Board in its Decision did **not** interpret Petitioner's use of the phrase "in view of the knowledge of POSA" (shown above) as being an assertion that "knowledge of POSA" filled in for limitations that are missing from Corbridge and Chatterjee. See Decision, p. 82 ("we disagree with Patent Owner..."). Patent Owner understands the Board's position to be that the Petitioner relies on express teachings in Chatterjee and/or Corbridge as interpreted by the POSITA rather than

relying on the knowledge of the POSITA to provide a missing limitation. *See* Decision, p. 83; *e.g.*, *SIPCO, LLC v. Emerson Elec. Co.*, 980 F.3d 865, 871 (Fed. Cir. 2020); *cf.* *DSS Tech. Mgmt. v. Apple Inc.*, 885 F. 3d 1367 (Fed. Cir. 2018).² Patent Owner will respond with the understanding that the single ground is whether the combination of Chatterjee and Corbridge renders the Challenged Claims invalid as obvious under Section 103.

B. Overview of Chatterjee and Corbridge

These references speak for themselves. The Board in its Decision provided an overview of each. Decision, pp. 36 - 47. The differences on which the Patent Owner relies as between the invention of Claims 1 and each of these references will be discussed below.

V. LEVEL OF SKILL IN THE ART

The Patent Owner will rely on the definition of the Person of Ordinary Skill in the Art ("POSITA") provided by Dr. Phinney as restated by the Board. Decision, p. 19.

² To the extent that Petitioner relies on ill-defined "knowledge of POSA" as a substitute for limitations that are missing from Chatterjee and/or Corbridge, Petitioner has not met its burden of proof for such use of "common sense" established under *DSS*, 885 F.3d at 1374; *Arendi*, 832 F.3d at 1363. *See* Patent Owner's Preliminary Response, pp. 28 – 31, incorporated herein.

VI. DISCUSSION OF APPLICABLE LAW

A. Petitioner Bears the Burden of Proof to Show Invalidity

"A Petitioner in an *inter partes* review has the burden of proving a claim's invalidity by a preponderance of the evidence. 35 U.S.C. § 316(e)." *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1364-65 (Fed. Cir. 2015); *Dynamic*, 800 F.3d at 1378 (Fed. Cir. 2015); *In re Magnum Oil Tools*, 829 F.3d 1364 (Fed. Cir. 2016); *Google v. IPA Techs.*, 34 F.4th 1081, 1086 (Fed. Cir. 2022). The "petitioner's contentions ... define the scope of the litigation all the way from institution through to conclusion." *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1357 (2018). Indeed, it is not even required that the Patent Owner file a response. *Fanduel, Inc. v. Interactive Games, LLC*, 966 F.3d 1334, 1342 (Fed. Cir. 2020); *Magnum*, 829 F.3d at n. 1.

B. Claim Construction

This Board must apply the standard established in *Phillips*, 415 F.3d at 1312; 37 C.F.R. 42.100(a). In *Phillips*, the Federal Circuit confirmed the supremacy of the specification and file history over extrinsic sources in determining the "ordinary meaning" of claim terms. *See id.* at 1320-21. "The only meaning that matters in claim construction is the meaning in the context of the

patent." *The Trustees of Columbia University v. Symantec*, 811 F.3d 1659, 1363 (Fed. Cir. 2016) (citing *Phillips* at 1316).

1. Petitioner Did Not Carry Its Burden of Proof by Failing to Provide a Construction for Key Material Terms

As an initial matter, Petitioner has not carried its burden to explain "[h]ow the challenged claim is to be construed" and "[h]ow the *construed* claim is unpatentable... ." 37 C.F.R. § 42.104; see Patent Owner's Preliminary Response, pp. 21 - 25. This Board in its Decision noted that Dr. Phinney was instructed by apparently Petitioner's counsel that he had "been told that the terms of the Challenged Claims do not require construction... ." Decision, p. 21. This stands claim construction on its head since it is through the eyes of the POSITA not counsel that the claims are to be construed. By failing to provide a claim construction as to key material terms that do not have well understood meanings, such as "impedance network," Petitioner failed to carry its burden under 37 C.F.R. § 42.104. Prior board decisions have denied institution because the Petitioner failed to provide a construction for one or more key terms material to the validity analysis. See, e.g., *C & D Zodiac, Inc. v. B/E Aerospace, Inc.*, Case IPR2017-01274, 2017 WL 5067555 (PTAB Oct. 31, 2017). It is, after all, "the Petitioner's

burden to present a clear argument." *Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed. Cir. 2023).

Now that Patent Owner has raised an actual dispute regarding the proper scope of the claims, and particularly limitations "coil," "impedance network," "switch network," and limitation [1.e.], the Board must now conduct a *Phillips* analysis and construe the disputed terms. *Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1372, 1375 (Fed. Cir. 2017); *see O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008).

2. Claims 1 and 2 Must be Construed Using the '312 Provisional

In its Decision, the Board stated:

Patent Owner cites the '929 patent that issued from the parent application for the continuation-in-part application that issued as the '339 patent. ... Patent Owner asserts that Figures 10A - 10H are "not in" the '929 Patent. ... But Patent Owner does not explain how the absence of that disclosure in the '929 patent undermines reliance on the '339 patent's preferred embodiments to interpret the '339 patent's claims.

Decision, p. 27. The following is the explanation as to why the terms at issue in Claim 1 must be construed using the disclosure found in the '312 Provisional.

Claim terms are to be construed as of the effective filing date. *Phillips*, 415 F.3d at 1313. There is no presumption that claims in a CIP are entitled to the effective filing date of an earlier filed application. *PowerOasis, Inc. v. T-Mobile*

USA, Inc., 522 F.3d 1299, 1304 (Fed. Cir. 2008). "A CIP application can be entitled to different priority dates for different claims." *Waldemer Link v. Ostenonics Corp.*, 32 F.3d 556, 558 (Fed. Cir. 1994); *see also Augustine Med., Inc. v. Gaymar Indus.*, 181 F.3d 1291, 1302 (Fed. Cir. 1999). In a CIP, the "effective filing date" must be evaluated on a claim-by-claim basis. Decision, p. 17, n. 2; *E.g., Natural Alternatives International, Inc. v. Iancu*, 904 F.3d 1375, 1383 (Fed. Cir. 2018); *see also Technology Licensing Corp. v. Videotek, Inc.*, 549 F.3d 1316, 1324 (Fed. Cir. 2008) (noting that "priority date" is "more accurately" referred to as "effective filing date."). "Claims containing any matter introduced in the CIP are accorded the filing date of the CIP application." *Waldemer*, 32 F.3d at 558; *Santurus*, 694 F.3d at 1352.

In a CIP application, a dependent claim may have a different priority date than the independent claim from which it depends. *Turbocare Div. of Demag Delaval Turbomachinery Corp. v. General Electric Company*, 264 F.3d 1111, 1118 (Fed. Cir. 2001). For example, in *Turbocare*, the independent claim 1 that found support in the parent included the limitation "a radial positioning means comprising a compressed spring... ." *Id.* at 1116. The dependent claim 2 further limited claim 1 as follows: "wherein said spring means include a flat spring... ." *Id.* The Federal Circuit reversed the District Court's summary judgment because it

found there to be "an issue of fact as to whether ... [the] amendment, which explicitly discloses flat springs, added new matter to the specification." *Id.* at 1118-19. The Federal Circuit further stated that "[b]ecause [the patentee] did not file a continuation-in-part application, he cannot rely on any alternative filing date for his newly added claim 2." *Id.* at 1120. Thus, a dependent claim can have a different effective filing date than its independent claim, and the independent claim may be valid whereas the dependent claim is not. *See id.*

"Disclosures constituting new matter should not be used to construe claim terms appearing in the parent application, even if the claim terms are common." *iLife Techs. Inc. v. Body Media, Inc.*, 90 F. Supp.3d 415, 427 (W.D. Penn. 2015); *Goldenberg v. Cytogen, Inc.*, 373 F.3d 1158, 1167-68 (Fed. Cir. 2004); *Lightforce USA, Inc. v. Leupold & Stevens, Inc.*, 2019 WL 2146245, *5-6 (D. Ore. May 15, 2019). Here, Claims 1 and 2 have as their effective filing dates August 13, 2012. *See* Section III(C) *above*; *See* Exhibit 2003, ¶ 44. The limitations "coil," "impedance network," "switch network," and limitation [1.e] appear in the same context in the '312 Provisional. *Id.* Thus, the new matter of the '339 Patent, including Claim 3, Col. 17, l. 30 - Col. 26, l. 50, and Figures 10A – 10H on which the Petitioner and Board heavily relied should not be used in interpreting these disputed terms. *See* Exhibit 2003, ¶¶ 40-44; Decision, *e.g.*, pp. 24-29, 31-33. In

relying on this new matter to initially reject Patent Owner's proposed constructions, the Board erred in allowing the tail, Dependent Claim 3, to wag the dog, Independent Claim 1, in construing these terms, which is improper under the authorities cited above. *E.g., Goldenberg*, 373 F.3d at 1167-68.

3. Board Overly Relied on the Preference Regarding Preferred Embodiments

In rejecting the Patent Owner's constructions, the Board overly relied on the guideline that "a construction which excludes the preferred embodiment is 'rarely, if ever, correct.'" *PPC Boadband, Inc. v. Corning Optical Communications RF, LLC*, 815 F.3d 747, 755 (Fed. Cir. 2016) (*citing Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)). The Board cited *Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1277 (Fed. Cir. 2008) (Decision, p. 26), which cited *Vitronics*. However, the Federal Circuit has noted

that *Oatey* is not a panacea, requiring all claims to cover all embodiments. Instead, Courts must recognize that disclosed embodiments may be within the scope of other allowed but unasserted claims.

PSN Illinois, LLC v. Ivoclar Vivadent, Inc., 525 F.3d 1159, 1166 (Fed. Cir. 2008).

None of these cases involved claims, as here, with different effective filing dates. Also, *Vitronics* is distinguishable because there the court reached a construction that excluded the *only* embodiment. *Vitronics*, 90 F.3d at 1583.

There is no requirement that all claims be construed to cover all embodiments. *See PSN Illinois*, 525 F.3d at 1166; *see also Tandon Corp v. U.S. International Trade Commission*, 831 F.2d 1017, 1024 (Fed. Cir. 1987). Merely, a patent claim should be "construed to encompass at least one disclosed embodiment in the written description." *John Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1355 (Fed. Cir. 1998). "It is often the case that different claims are directed to and cover different disclosed embodiments." *Helmsderfer v. Borbrick Washroom Equipment, Inc.*, 527 F.3d 1379, 1883 (Fed. Cir. 2008); *see also Intamin Ltd. v. Magnetar Techs., Corp.*, 483 F.3d 1328, 1336-37 (Fed. Cir. 2007).

The Board relied on Claim 3 and other new matter not found in the '312 Application or the '929 Patent. Decision, p. 24 (citing to Ex. 1001, 21:27 - 26:7, Figs. 10A-10H); p. 25; p. 27 (discussing Claim 3). To the extent the Board's reliance on Claim 3 was based on claim differentiation, claim differentiation "is 'not a hard and fast rule and will be overcome by a contrary construction dictated by the written description or prosecution history.'" *Marine Polymer Technologies, Inc. v. Hemcon, Inc.*, 672 F.3d 1350, 1359 (Fed. Cir. 2012) (en banc); *O.I. Corp. v. Tekmar Co. Inc.*, 115 F.3d 1576, 1582 (Fed. Cir. 1997) (concluding "that the description provides a clear meaning for the language of the claim in this case and that it trumps the doctrine of claim differentiation."); *Edwards Lifesciences LLC*,

582 F.3d 1322, 1332 (Fed. Cir. 2009). This is especially true here because Claims 1 and 2 have an earlier effective date than Claim 3.

C. Law of Obviousness

A claim "is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Intn'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). An obviousness determination requires finding

both "that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so."

Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd., 821 F.3d 1359, 1367-68 (Fed. Cir. 2016) (citation omitted). Whether a skilled artisan would have been motivated to combine references is a question of fact. *Virtek Vision Intern'l ILC v. Assembly Guidance Systems, Inc.*, 97 F.4th 882, 886 (Fed. Cir. 2024). The Petitioner must explain and support its explanation regarding motivation to combine to demonstrate reliance on something other than hindsight bias. *See One World Techs.*, No. IPR2020-00885, 2020 WL 6542022, at *13.

It is axiomatic that a difference between anticipation and obviousness is that each limitation need not be present in a single piece of prior art for the invention to be obvious. To prove obviousness, the Petitioner must show that all of the limitations are present in the combination of references relied upon. *See Rhine v.*

Casio, Inc., 183 F.3d 1342, 1346 (Fed. Cir. 1999) (remanding for further fact finding including motivation to combine even though court found all limitations present in combination); *Application of Royka*, 490 F.2d 981, 985 (CCPA 1974); *Roku, Inc. v. ITC*, 90 F.4th 1367, 1374 (Fed. Cir. 2024) (affirming ITC findings on nonobvious where administrative judge found that one limitation was missing from the combination); *see also Intellectual Ventures I, LLC v. Motorola Mobility LLC*, 176 F. Supp. 3d 405, 428 (D. Del. 2016), *aff'd in relevant part* 870 F.3d 1320 (Fed. Cir. 2017); *Upsher-Smith Laboratories, Inc. v. Pan American Labs., Inc.*, 2003 WL 22999551, *4 (D. Min. Dec. 19, 2003) (stating that "[t]o establish invalidity on obviousness grounds, the moving party must show by clear and convincing evidence that all claim limitations are present in a combination of prior art references", *citing McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351 (Fed. Cir. 2001)). There is no need to discuss motivation to combine the references of the combination when together they do not meet all claim limitations.

It is true that "knowledge of a POSA" or "common sense" in some cases can be used to "fill in" for a limitation missing in a reference or combination of references, but additional showings beyond the bare allegation must be made. The Court in *Arendi v. Apple, Inc.*, 832 F. 3d 1355 (Fed. Cir. 2016) stated:

[W]hile 'common sense' can be invoked, even potentially to supply a limitation missing from the prior art, it must still be supported by

evidence and reasoned explanation. In cases ***where 'common sense' is used to supply a missing limitation***, as distinct from a motivation to combine, moreover, our search for a reasoned basis for resort to common senses ***must be searching***. And, ***this is particularly true where the missing limitation goes to the heart of the invention.***"

Arendi, 832 F.3d at 1363 (emphasis added). In *DSS Technology Management*, the Federal Circuit applied *Arendi* in reversing the PTAB's ruling of obviousness where a conclusory allegation of "common sense" was relied upon to supply a missing limitation. *DSS Technology Mngt., Inc. v. Apple Inc.*, 885 F.3d 1367, 1374 (Fed. Cir. 2018) (emphasis added).

Here, the Petitioner did not point to any specific "knowledge of one skilled in the art" to fill in for any missing limitation. Furthermore, as noted above, the Board did not interpret the single ground stated in the Petition as relying upon the knowledge of a POSITA to fill-in for a missing limitation. See Decision, p. 82.

VII. CLAIM CONSTRUCTION

The first step in a validity analysis based on prior art is that the claims must be construed. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 996 n.7 (Fed. Cir. 1995) (Mayer, J., concurring), aff'd, 517 U.S. 370 (1996); *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001).

A. Limitation [1.a] - "one of coil and capacitor electrodes"

From the structure of the claim itself, the "coil" (or capacitor) of limitation 1[a] is separate from the limitations that follow, limitation [1b] "first circuitry" and limitation [1.c], "second circuitry." There is an inference that different claim terms in the same patent have different meanings. *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F. 3d 1572, 1579 (Fed. Cir. 1996). When two different claim terms are near each other in the same claim the inference that a different meaning should be assigned to each is greater. *Bancorp Servs., LLC. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1373 (Fed. Cir. 2004); *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1119-20 (Fed. Cir. 2004); *Applied Med. Res. Corp. v. United States Surgical Corp.*, 448 F.3d 1324, 1333 n.3 (Fed. Cir. 2006). "Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct components of the patented invention." *Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010). These inferences are not conclusive and may be overcome in claim construction by reference to the intrinsic and extrinsic evidence. *See Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1348 (Fed. Cir. 2010) (relying on intrinsic evidence to hold that "drive bay" and "drive bay slot" have different meanings).

The inference stands here since the specification confirms that limitation [1.a] is separate from limitations [1.b] and [1.c]. In the specification, the invention is described as using either inductive coupling or capacitive coupling, as shown, for example, in Fig. 2A:

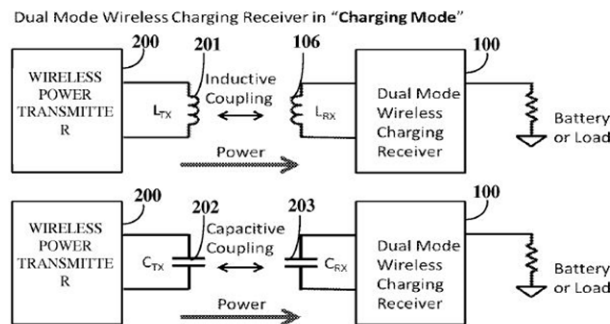


FIG. 2A

Ex. 2004, '312 Application, Fig. 2A. As shown, one embodiment uses inductive coupling and a second uses capacitive coupling. This Figure is described in the '312 Application as follows:

Fig. 2A exemplarily illustrates a schematic diagram of a wireless power charging system, wherein a wireless power transmitter 200 transmits wireless power to the dual mode wireless charging receiver 100 through a magnetic field using inductive coupling and through an electric field using capacitive coupling.

Exhibit 2004, ¶ [0027].

In the embodiment using inductive coupling, "[t]he dual mode wireless power receiver 100 comprises a receiver coil 106 that picks up the magnetic field

with a certain coupling coefficient that exists between the transmitter coil 201 and the receiver coil 106." Exhibit 2004, ¶ [0027]; *see also* Exhibit 2002, 8:18 - 21; Exhibit 1001, 10:20 - 29.

The Board did not expressly construe limitation [1.a], but apparently agreed with the Patent Owner. Decision, pp. 50-51; 59 (discussing coil L1 and L2 in Chatterjee, noting that they were "separate" from capacitor C1). The Board further stated that "Patent Owner does not dispute that Chatterjee teaches limitation 1.a." Decision, p. 50. That is not entirely true.

Patent Owner **agrees** with the Board that inductive coils L1 - L6 all meet limitation [1.a], "a coil." Decision, p. 59. The point of **dispute** that requires construction is that these inductors (L1, etc.) cannot also be counted, in the attempt to apply the claims to the circuits of Chatterjee, as part of the "impedance network" since "coil" and "first circuitry" including the "impedance network" are required to be separate elements in Claim 1. *See, e.g.*, Ex. 2003, ¶¶ 91-94. Since Patent Owner has raised a claim construction issue relevant to the outcome, Patent Owner requests that the Board expressly construe limitation [1.a] as being separate from both the "impedance network" and the "switch network" of the "first circuitry." *See Homeland*, 865 F.3d at 1372.

B. Limitation [1.b] - "Impedance Network"

As noted by Dr. Direen, "impedance network" would not have a well understood meaning to the POSITA, and would be ambiguous standing alone. Exhibit 2003, ¶ 95. To further understand the meaning of the limitation "impedance network," a POSITA would review the specification, including the drawings. In the drawings of the '312 Provisional, the "impedance network" and "switch network" are consistently shown as separate networks. Exhibit 2004, '312 Provisional, Figs. 1, 5A, 5B.

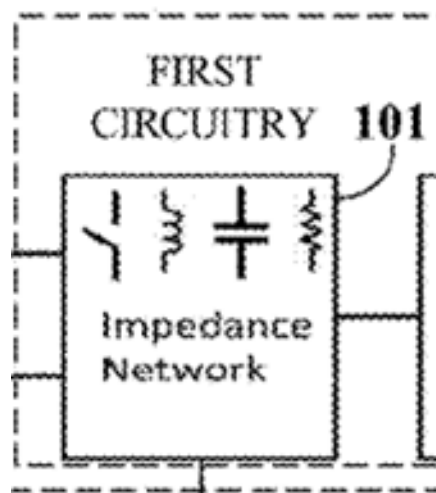
Turning to the '312 Provisional Application, a POSITA would find the following description of "impedance network":

[0024] The impedance network 101 comprises ***one or more of passive electronic components***, for example, a resistor, a capacitor, a magnetic device, a transducer, transformer etc.; ***active electronic components***, for example, a diode, a transistor such as a metal oxide semiconductor field effect transistor (MOSFET), a bipolar transistor, etc., operational amplifiers, an optoelectronic device, etc., and ***electronic switches. These electronic components in combination*** are utilized to vary impedance of the dual mode wireless charging receiver 100 prior to transmitting power to a secondary wireless power receiver 300.

Exhibit 2004, ¶ [0024] (emphasis added); *see also* Ex. 2002, 6:1 - 7: 7; Ex. 1001, 9:4 – 14; Exhibit 2004, ¶¶ 98-99. The phrase "one or more" and the punctuation of the first sentence of Paragraph 24 causes an ambiguity - whether "one or more"

refers to just "passive elements" or the entire list. Fortunately, a further review of the specification clarifies that "one or more" applies just to "passive elements."

A POSITA would understand "network" to mean two or more distinct electrical components electrically connected together. Ex. 2003, ¶ 96. This understanding would be further informed by the illustration of "Impedance Network" shown in Figures 1; 3; 5A, 5B. Therein, the "impedance network" is illustrated as:



Ex. 2004, '312 Provisional, Fig. 1, element 101. Taking the four symbols shown in the box labelled "Impedance Network," from left to right, a POSITA would understand the illustrations therein to show a switch, an inductor, a capacitor, and a resistor. Exhibit 2003, ¶ 103.

In addition to the meaning of "network" and the Figures, the second sentence of Paragraph 24 of the '312 Provisional provides further clarity:

These electronic components in combination are utilized to vary impedance of the dual mode wireless charging receiver 100 prior to transmitting power to a secondary wireless power receiver 300.

Exhibit 2004, '312 Application, ¶ [0024]; *see also* Ex. 2002, 7:3 - 7; Ex. 1001, 9:11 – 14. Note the plural "these electronic components." This in combination with the word "network," which implies two or more, confirms that "one or more" in the preceding sentence modifies just "passive electronic components." Thus, Patent Owner requests that "impedance network" be construed as "a collection of two or more electrical components chosen from the list (1) one or more passive components; (2) active components; and (3) switches." Ex. 2003, ¶ 110.

C. Limitation [1.e]

In connection with reviewing the claims and specification to understand the meaning of "impedance network," a POSITA in examining the structure of Claim 1 would take note of limitation [1.e]:

said first circuitry, based on an input from said control logic circuit, configured **to change impedance of said impedance network** and topology of said switch network **to obtain a modified form of said received power**, and apply said modified form of said power to said load device;

Ex. 1001, Claim 1. This limitation identically appeared in the original claim 1 found in the '312 Provisional:

said first circuitry, based on an input from said control logic circuit, configured to **change impedance of said impedance network** and

topology of said switch network **to obtain a modified form of said received power**, and apply said modified form of said power to said load device;

Ex. 2004, Claim 1, p. 22 (top). "Impedance network," must be construed as of its effective date of Claim 1, August 13, 2012. *See* Section VI(B)(2) above.

Claim 1 is written from a particular viewpoint, which is that the "dual mode wireless power receiver" is first configured to receive power (limitations [1.p] and [1.d]). Ex. 2003, ¶ 113. The preamble states: "a dual mode wireless power receiver configured to selectively apply a received power... ." '339 Patent, 27:1 - 2; Ex. 2004, Claim 1, preamble. As explained in the '312 Provisional, in Figure 2B, the "switch network is configured as a rectifier by default." Ex. 2004, Fig. 2B (top left box).

Limitation [1.d] precedes limitation [1.e] and requires "said first circuitry configured to receive said power from a wireless power transmitter." In view of the fact that the dual mode wireless power receiver is claimed as being in the receiving a charge mode in limitation [1.d], limitation [1.e] should be interpreted as adding additional limitations related to the dual mode wireless power receiver while in the charging mode. Ex. 2003, ¶¶ 113-118.

In addition, limitation [1.f] concerns changing between the receiving power mode to the communication/transmitting power mode. Read in the light of

surrounding claim language, it is clear that limitation [1.e] requires that the "impedance of the impedance network" be capable of changing while in the receiving power mode. Ex. 2003, ¶ 118.

The specification further supports this understanding. For example, in the "Summary of the Invention" section of the '312 Provisional, the following description is found:

In the charging mode, dual mode wireless charging receiver configures the first circuitry to receive the power from a wireless power transmitter. The first circuitry, based on input from the control logic circuit is configured to change the impedance of the impedance network and topology of the switch network to obtain a modified form of the received power, and apply the modified form of the power to the load device, for example, a battery.

Ex. 2004, p. 2., [0004].

In addition, the specification states in connection with the description of "impedance network" that its impedance must be capable of being varied or adjusted. For example, "[t]hese electronic components in combination are utilized to **vary impedance** of the dual mode wireless power receiver 100 prior to transmitting power to a secondary wireless power receiver 300." Ex. 2004, [0024]. The specification further explains: "[t]he dual mode wireless charging receiver 100 powers up and adjusts the impedance network 101 of the first circuitry." Ex. 2004, pp 11 - 12.

In view of the surrounding claim language and the specification, a POSITA would understand that limitation [1.e] requires that the "impedance network" be "controllably varied during at least the receiving power mode." Ex. 2003, ¶ 121; *Trustees*, 811 F.3d at 1364.

The Board in its Decision rejected Patent Owner's construction for apparently three reasons. First, it relied on the new matter regarding choosing one or more capacitors "a priori." Decision, p. 29. Second, it relied on portions of the specification discussing the change in impedance and switch network as between the charging mode and communication/transmitting power mode. Decision, pp. 30 - 31. Third, the Board relied on Claim 3, which constitutes new matter. Decision, p. 31. Patent Owner disagrees with Board's preliminary findings, and respectfully requests that it reconsider for the following reasons.

Regarding the first, the Board pointed to the '339 Patent's description regarding choosing one or more capacitors "a priori," stating:

the '339 patent repeatedly explains that the one or more capacitors comprising impedance network 101 are 'chosen a priori (fixed) or tuned during operation (variable) to change the impedance of the impedance network 101. Ex. 1001, 21:39-43; 22:9-14; 22:53-57; 23:28-32, 24:5-9, 24:44-48, 25:15-20, 25:52-56. ... Patent Owner's proposed construction excludes embodiments implementing the "chose a priori (fixed)" alternative for the one or more components comprising the claimed "impedance network."

Decision, p. 29. However, none of the portions cited by the Board appear in the '312 Provisional. Ex. 2004. All of the material relied upon by the Board constitutes new matter added to the application for the '339 Patent as a CIP of the '929 Patent, and it is improper to rely on this new matter in construing Claims 1 and 2. See Section VI(B)(2) above. Claims 1 and 2 have as their effective date August 13, 2012, and must be interpreted using the '312 Provisional. Also, there is no requirement that a claim encompass all embodiments. See Section VI(B)(3) above.

Regarding the second reason, the Board stated its conclusion as follows:

Based on the current record, the language "change impedance of said impedance network and topology of said switch network" in ***limitation 1.e concerns configuration changes that occur when transitioning between modes of operation rather than changes that occur during a particular mode of operation.***

Decision, p. 31 (emphasis added). This conclusion is demonstrably wrong. The very next limitation [1.f] embodies precisely the change between modes referenced by the Board (in highlight above):

[1.f.] said first circuitry, based on an input from said control logic circuit, configured to change said topology of said switch network and said impedance of said impedance network to transmit at least part of said stored power to said wireless power receiver to power-up said wireless secondary wireless power receiver;

Ex. 1001, '339 Patent, Cl. 1, 27:26-31. Limitation [1.f] concerns changing between the receiving power mode to the communication/transmitting power mode. The Board's interpretation of limitation [1.e] would render limitation [1.f] redundant and superfluous. "It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous." *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 810 (Fed. Cir. 2021) (*quoting Wasica Finance GmbH. v. Continental*, 853 F.3d 1272, 1288 n. 10 (Fed. Cir. 2017)). Claim limitation [1.e] is directed to something different than limitation [1.f], that is, the capability of changing the impedance while the dual mode wireless power receive is still in the receiving power mode.

In addition, the Board's discussion of the specification (Decision, pp. 30 - 31), even to the extent it includes material that is not new matter, failed to take into account the portions of the specification noted above that describe the impedance of the impedance network being changed or varied. Ex. 2004, Fig. 2B, ¶¶ [0004], [0007], [0029]; Cls. 1 and 3.

Regarding the third reason, the Board relied on Claim 3 to reject Patent Owner's construction of impedance network. *See* Decision, pp. 27; 31 - 32. In doing so it erred as Claim 1 must be interpreted using the '312 Provisional whereas Claim 3 must be interpreted using the '339 Patent. *See* Section VI(B)(2).

In conclusion, Limitation [1.e] is not ambiguous, it requires that the impedance of the impedance network be capable of being changed during the mode wherein the dual mode wireless power receiver is receiving power. Patent Owner respectfully requests that the Board reconsider and accept the Patent Owner's proposed construction of limitation [1.e].

D. Dependent Claim 3, Even if Properly Considered in Interpreting Claim 1, May be Reasonably Interpreted as Consistent With Patent Owner's Construction

Even to the extent that it is proper to use Claim 3 to interpret Claim 1, and it is not, the Board's preliminary broader interpretation of "one or more" (Decision, p. 28) over Patent Owner's more narrow "two or more..." for "impedance network" violates the claim construction principle that, where there are two reasonable constructions and one would result in invalidity (according the Decision and Petitioner, which proposition the Patent Owner contests), the one favoring validity should be chosen. *Modine Mfg. Co. v. U.S. Intern. Trade Com'n*, 75 F.3d 1545, 1557 (Fed. Cir. 1996) (abrogated on other grounds, *Festo Corp. v. Shoketsu*, 234 F.3d 558 (Fed. Cir. 2000); *Phillips*, 415 F.3d at 1327. Patent Owner's construction of Claim 3 is entirely reasonable and would not conflict with the Patent Owner's proposed construction of Claim 1.

Claim 3 reads:

3. The dual mode wireless power receiver of claim 1, wherein said **impedance network** of said first circuitry **comprising the elements** that are one of chosen ***a priori with fixed values*** and tuned during operation over a range of values.

'339 Patent, 27: 47 – 51; Ex. 2003, ¶ 104.

From the structure of Claim 3, its meaning is clear. As shown, the impedance network must be comprised of "elements." The plural indicates two or more. The use of the verb "are" reflects the plural nature of "elements." "A priori" simply means "relating to or derived by reasoning from self-evident propositions." Merriam-webster.com/dictionary/a%20priori. This word – a priori – modifies "chosen." The word "values," that is, the thing that must be chosen for the "elements," is plural. The phrase "and tuned during operation over a range of values" further restricts the collection of elements – they must be "tunable during operation." Thus, Claim 3 merely places an additional structural restriction on the impedance network, wherein the component parts of the "impedance network" that have values, such as the passive components, must be chosen "a priori," and the components must be "tunable during operation." Ex. 2003, ¶ 104-109.

Petitioner attempted to make much of Claim 3 in combination with Fig. 10E (of the '339 Patent) to argue that the "impedance network" can be just a single capacitor. Petition, pp. 27, 59. Again, Claim 3 cannot be used to interpret "impedance network." See Section VI(B)(2) above. However, this assertion is

wrong in view of the proper construction. Ex. 2003, ¶ 147. A single capacitor does not meet the construction "two or more components," nor can Petitioner's alleged impedance network be controllably varied. Ex. 2003, ¶¶ 147 - 150.

Dr. Phinney and the Petitioner failed to provide any analysis much less a construction for Claim 3. Instead, Petitioner asked Dr. Phinney to assume a construction:

I have been asked to assume that claim [3] can be met by disclosure of **either one of** "elements that are ... chosen a priori with fixed values" **and** "elements that are ... tuned during operation over a range of values."

Ex. 1002, ¶ 180. It is important to note that the Petitioner and Dr. Phinney have rewritten the language of Claim 3 with absolutely no explanation as to why. The Patent Owner should not have to speculate. The Petitioner failed to comply with 35 C.F.R. § 42.104.

The motivation of Petitioner in rewriting the claim is clear – it did so that it could then argue that the single capacitor (C1, Fig. 6A or C2 in Fig. 6B) of Chatterjee meets the limitation "impedance network." Ex. 1002, Phinney Decl., ¶ 182. Capacitor (C1 or C2), being a single passive device, does not constitute a "network" much less the "impedance network" as construed above. Ex. 2003, ¶¶ 147-150.

E. Limitation [1.b] - "Switch Network"

While Board is correct that "Patent Owner does not dispute that Chatterjee teaches the claimed 'switch network'..." (Decision, p. 57), Patent Owner disagrees with the Board's position that the term "switch network" does not need to be construed. Decision, p. 35. The term should be construed to be a separate "network" from the "impedance network." These two limitations are recited separately, and, hence, the presumption is that these are separate terms. *Ethicon*, 93 F.3d at 1579; *Bancorp*, 359 F.3d at 1373. The two or more "switches" of the "switch network" cannot also constitute in whole or in part the "impedance network." This construction is supported by the following analysis.

A POSA would not, reading Claim 1 and the limitation "switch network" in a vacuum, have a clear understanding of the meaning of "switch network." Ex. 2003, ¶ 124. Construction is required. *Id.* The POSITA would review the specification, including the drawings, to determine the meaning of the limitation "switch network" as used in the Claims.

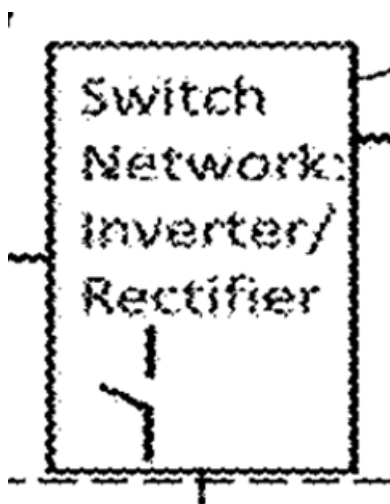
Within the '312 Provisional, an explanation of the term "switch network" is found at numerous points in the specification. For example, the specification states:

The first circuitry is configured to as an inverter or a rectifier depending on the mode of operation of the dual mode wireless

charging receiver. In the charging mode, the first circuitry is configured as a rectifier to convert alternating current to direct current (ac-to-dc). In the communications mode, the first circuitry is configured as an inverter to convert direct current to alternating current (dc-to-ac).

Ex. 2004, '312 Provisional, ¶ [0004]. Further instances explaining the switch network include the following: Abstract; p. 2, ¶ [0004]; p. 4, ¶ [0007]; p. 8, ¶ [0023]; p. 11, ¶ [0029]; p. 12, ¶ [0030]; p. 13, ¶ [0033]; p. 14, ¶ [0036]; p. 16, ¶ [0039], p. 18, ¶ [0041]; p. 19, ¶¶ [0043 - 46]; p. 20, ¶ [0047]; *Cf.* '339 Patent, e.g., 3:63-66, 8:37-39, 8:47-51, 10:52-55, 11:24-29, 12:1-7.

With regard to the excerpt immediately above (¶ [0004]), note in particular that the switch network is configured to be either a rectifier or an inverter depending on the mode of operation. This is consistent with the depiction provided by Figure 1, which illustrates the "switch network" as follows:



'312 Provision, Fig. 1. Element 102 is named "Switch Network: Inverter/Rectifier," which comports with the explanation in the specification (quoted above) that the "switch network" will be configured as either an inverter or a rectifier. *See also* Ex. 2004, Figure 5A. Further, the "switch network" is described in some figures as being in one mode or another and, thus, is configured to be either an inverter or a rectifier. For example, the switch network is shown as being configured as an inverter in Figures 4A-D, 5B, and 7A-7B, while the switch network is shown as being configured as a rectifier in Figures 2B and 6B. Ex. 2003, ¶ 126.

An inverter and rectifier are well-known devices in electrical engineering used to modify current. Ex. 2003, ¶ 127. The function of an inverter is to convert DC to AC, and the function of a rectifier is to convert AC to DC. *Id.* For example, and not as a limitation, a device can be constructed with the same components present in a "switch network" that could convert power in the form of DC to a power signal that is the combination of AC and DC (*i.e.*, an AC signal with a DC component). Ex. 2003, ¶ 128. It is clear that the term "switch network," reading the claim term in light of the '312 Specification, including the drawings, that the "switch network" is separate from the "impedance network" and the "coil." Exhibit 2003, ¶ 129. In addition, if necessary to construe this term in this trial,

"switch network" should be construed as: "an interconnected combination of two or more switches configured to modify the form of power." *Id.*

F. Limitations [1.f] - [1.i] - No Construction Needed

For the purposes of evaluating the lack of merit of the only Ground raised by Petitioner, limitations [1.f] - [1.i] do not require construction. The same holds true for Challenged Dependent Claims 2; 5, 7, and 9.

G. Conclusion - Claim Construction

For the reasons explained above, Patent Owner requests the following constructions:

	Limitation	Proposed Construction	Reference
	coil	Separate from both the "impedance network" and the "switch network."	Section VII(A)
	impedance network	a collection of two or more electrical components chosen from the list (1) one or more passive components; (2) active components; and (3) switches.	Section VII(B)
1.e	said first circuitry, based on an input from said control logic circuit, configured to change impedance of said	"to change impedance of said impedance network ... to obtain a modified form of said received power" requires that the "impedance network" (as construed) must be "controllably varied during at least the receiving power mode."	Section VII(C)

	impedance network and topology of said switch network to obtain a modified form of said received power , and apply said modified form of said power to said load device;		
	switch network	separate from the "impedance network" and the "coil."	Section VII(E)

Ex. 2003, ¶ 131.

VIII. UNDER PROPER CONSTRUCTION CLAIM 1 IS NOT RENDERED OBVIOUS BY PETITIONER'S SINGLE GROUND

Under a proper understanding of the terms "coil," "impedance network," "switch network," and limitation 1[e], Petitioner has not carried its burden to show by a preponderance of the evidence that Claim 1 is rendered obvious by Chatterjee and Corbridge. The following discussion highlights the differences between the invention of Claim 1, properly construed, and each of Chatterjee and Corbridge. After a discussion of the differences, Patent Owner will then address the non-obviousness of Claim 1 as a whole.

A. Petitioner's Obviousness Analysis is Flawed

The legally correct analysis is to first identify the differences between the claimed invention and the primary reference (here, Chatterjee) and any other reference relied upon (in this case, Corbridge). This is the second *Graham* factor. *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). The M.P.E.P. correctly summarizes Federal Circuit precedent as follows:

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 **is not whether the differences themselves would have been obvious**, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983)

M.P.E.P., Ninth Edition, Rev. 07.2022, Pbl. Feb 2023, Section 2141.02 (emphasis added). "A determination of whether a claim is invalid as obvious under § 103 requires consideration of all four *Graham* factors, and it is error to reach a conclusion of obviousness **until** all those factors are considered." *Apple Inc. v. Samsung Electronics Co., Ltd.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (emphasis added). The purpose of the *Graham* factors, including the second "differences" factor, is to guard against hindsight bias. *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litigation*, 676 F.3d 1063, 1079 (Fed. Cir. 2012).

Here, Petitioner focused on whether each difference standing alone was "obvious," but never analyzed the claim as a whole in view of the differences identified. Petition, *e.g.*, p. 25 ("Chatterjee in view of the knowledge of POSA renders obvious this limitation."); *see also* 35; 39; 43; 46; 52; 55; 57; 58. This approach is improper. *In re Dembiczak*, 175 F.3d 994, 1000 (Fed. Cir. 1999) (reversing Board decision in interference, finding that "this reference by reference, limitation-by-limitation analysis fails to demonstrate how [the two references] teach or suggest their combination with conventional trash or lawn bags to yield the claimed invention"). The "differences" must first be identified, and then, using this *Graham* factor (and any others) along with consideration of the motivation to combine, the claim as a whole must be considered in light of those factors to determine whether it is rendered obvious.

B. Differences Between the Invention of Claim 1 and Chatterjee

1. Chatterjee's Coils L1, L2, Etc.

Petitioner and its expert Dr. Phinney correctly state that Chatterjee's "bi-direction coil assembly," referenced as element 412, has a coil, element 106. Ex. 1002, ¶ 104. For example, beginning with the abstract, the "coil assembly" "has one or more inductive coils." Ex. 1003, Abstract. This same statement is found under "Detailed Description," "[a]n inductive signal interface includes a coil

assembly which has one or more inductive coils." Ex. 1003, ¶ [0030]; *see also* ¶ [0033]. The "Bi-Directional Coil Assembly" is described as:

[t]he bi-directional coil assembly 412 operates in a similar fashion the bi-directional coil assembly 312 of Fig.3 to transmit and receive the power signal. The bidirectional coil assembly 412 is also coupled to the communication circuit 415 to receive and transmit modulated data signals.

Ex. 1003, ¶ [00045], *see also* ¶ ¶ [0046], [0047]. Dr. Phinney does not cite to any of the more detailed Figures 6 (*i.e.*, 6C and 6D) in asserting that the "coil" limitation is met. *See* Ex. 1002, ¶ 104-105

The Board stated that "Patent Owner does not dispute that Chatterjee teaches limitation 1.a." Decision, p. 50. That is not entirely true.

Patent Owner agrees with the Board that inductive coils L1 - L6 all meet limitation [1.a], "a coil." Decision, p. 59. The point of dispute that requires construction is that these inductors (L1, etc.) *cannot also be counted*, in the attempt to apply the claims to the circuits of Chatterjee, *as part of the "impedance network"* since "coil" and "first circuitry" including "impedance network" are required to be separate elements in Claim 1. *See* Section VII(A) above; *see, e.g.*, Ex. 2003, Section IX(A)(2).

2. "Impedance Network" Not Present in Chatterjee

As set forth above, "impedance network" is properly construed as:

a collection of two or more electrical components from the list (1) one or more passive components; (2) active components; and (3) switches

Ex. 2003, Section IX(A).

Dr. Phinney relies on Fig. 6B to assert that element 632, the Bi-Directional Coil Assembly," meets the limitation "impedance network," stating:

Therefore, it is my opinion that Chatterjee's bi-directional coil assembly discloses the claimed 'impedance network' such as by providing a capacitor C2 with capacitive impedance and a wire with no impedance that can be selectively connected with the inductive coil under different modes to provide variable impedance under different modes.

Ex. 1002, ¶ 115. This assertion is not correct. Ex. 2003, ¶¶ 140 – 150.

As an initial matter, a "wire" does not constitute a "component" such as "electrical components from the list (1) one or more passive components; (2) active components; and (3) switches." Ex. 2003, ¶ 147. Furthermore, the single capacitor C2 (shown in Fig. 6B) does not constitute an "impedance network" under the proper construction given above, which requires "two or more components... ." Therefore, the limitation "impedance network" is missing from Chatterjee. Direen Decl., ¶¶ 148 - 150.

The Board stated that "even if the claimed 'impedance network' requires 'two or more electrical components,' as Patent Owner contends, Chatterjee teaches the

claimed 'impedance network.'" Decision, p. 60. The Board then explained its statement:

Specifically, Chatterjee discloses:

(1) bi-directional coil assembly 633 with capacitor C3 and capacitor C4 (shown in Figure 6C); and

(2) bi-directional coil assembly 634 with capacitors C5 and capacitor C6 (shown in Figure 6D).

Ex. 1003 ¶¶70, 72, Figs. 6C – 6D; see Ex. 1002 ¶¶ 74-75.

Decision, p. 60. As an initial matter, Dr. Phinney (in Ex. 1002, ¶¶ 74-75) did not specifically address Figures 6A, 6C-6D, but rather relied upon Figure 6B.

Furthermore, as explained by Dr. Direen, two or more capacitors alone would not provide the functionality required by limitation [1.e]; rather, at least one additional active element or switch (independent of the "switch network") would be required to change impedance. Ex. 2003, ¶ 150-152.

The Petitioner and Dr. Phinney did not explain the circuits shown in Figures 6A – 6D. As will be shown below, the multiple capacitors are not part of the circuit when the device is in the receiving power mode. Hence, there are not "two or more passive components" while the device is in the receiving power mode. Once properly understood, it is clear that the limitations "impedance network" and

limitation [1.e] are not met by the Chatterjee. These Figures are discussed in the next section in the context of Limitation [1.e].

3. Chatterjee Does Not Show and "Impedance Network" that Meets Limitation [1.e]

As shown above, the Petitioner and its expert Dr. Phinney assert that "Chatterjee's bi-directional coil assembly discloses the claimed 'impedance network.'" Petition, p. 25; Ex. 1002, p. 53, ¶ 108. This assertion is not correct for the reasons just shown, excluding the coils L1 and L2 (Fig. 6A) or L3 (in Fig. 6B) , the single capacitor C1 does not constitute an "impedance network," which requires two or more components... ." Ex. 2003, ¶ 150. In addition to these differences, the limitation 1.e is not met by Chatterjee.

As to limitation [1.e], Petitioner and its expert allege as follows:

a POSA would have understood that Chatterjee's bi-directional coil assembly has different impedance in different modes because its impedance network – capacitor C2 between node 601 and 605 and the wire between node 603 and 605 – **provides different impedance under different modes:** in the power transmit mode, the impedance network provides capacitive reactance ...; and in the power receive mode, it does not... . Phinney (EX1002, ¶142).

Petition, pp. 41 - 42 (emphasis added). As shown in the bolded portion, Petitioner concedes that, even counting the coil L3 (of Fig. 6B) as part of the "Bidirectional Coil Assembly 632," which Petitioner alleges is the "impedance network," the Petitioner's alleged "impedance network" is not capable of changing its impedance

in *the same mode* of operation, the receive mode, as required by this limitation [1.e]. Chatterjee merely teaches changing the impedance of the coil assembly (631) "based on the mode of operation" but not during the same mode of operation, such as the receiving power mode as is required by limitation [1.e]. See Ex. 1003, ¶ [0066].

A POSA would understand from the structure of the claim language -- "a modified form of said received power, and apply said modified form of said power to said load device" -- to be requiring at least a change of impedance when the claimed dual mode wireless receive is in the receiving power mode, that is, it is charging the load device (*e.g.*, the battery). See Section VII(C) above (construing limitation [1.e]). This admission (Petition, pp. 41 – 42) - that Chatterjee can only change impedance "under different modes" - alone justifies denial of the Petition because the alleged impedance network does not meet this limitation, nor did Petitioner cite any evidence that would render this limitation obvious. Ex. 2003, ¶ 152.

Dr. Direen in his Declaration explains each of the circuits shown in Figures 6A – 6D in both modes of operation, that is, the (1) receiving power mode and the (2) communication/transmitting power mode. Ex. 2003, ¶¶ 154 – 168. Most critical to this analysis of limitation [1.e] are the circuits of Figures 6A-6D in the

receiving power mode because, as explained above, limitation [1.e] requires that the impedance of the impedance network be capable of changing its impedance in the same mode of operation, the receiving power mode. Ex. 2003, ¶ 152.

The circuit of Fig. 6A in the receiving power mode is highlighted in the image below.

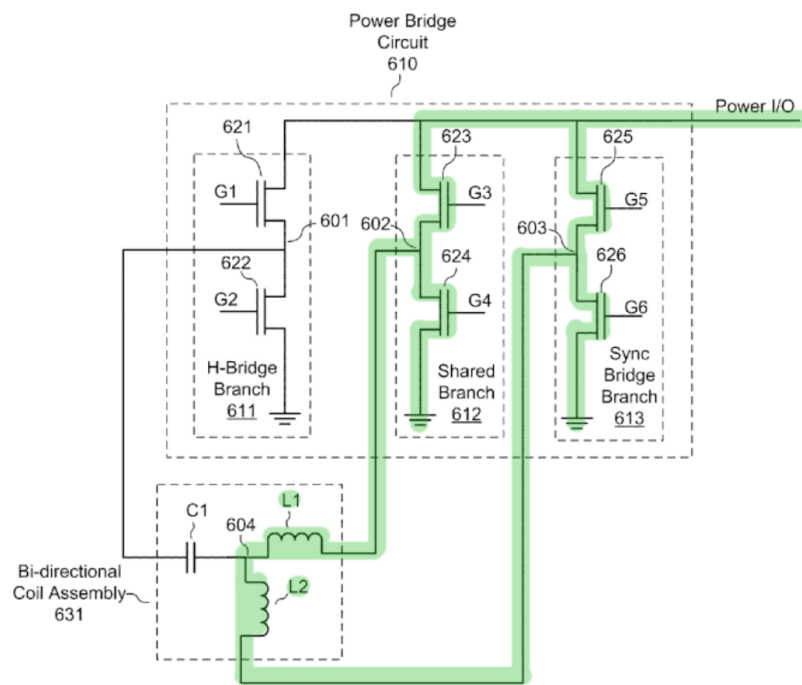


FIG. 6A

Ex. 2003, ¶ 156. This is confirmed in the specification:

In this mode of operation [the power receive mode] of the inductive signal interface, the signals G1 and G2 de-asserted [sic] such that the switches 621 and 622 of the H-bridge branch 611 are in the off state. Thus, the H-bridge branch 611 is off while the sync bridge branch 613 and the shared branch 612 are active.

Ex. 1003, ¶ 65; Ex. 2003, ¶ 156. In this configuration the capacitor C1 of the above circuit in the "receiving power mode" is not part of the circuit used for the purpose of receiving power. This is further confirmed: (in Ex. 1003 paragraph 65): "[b]y turning off the H-bridge branch 611, current flow through capacitor C1 is turned off and current flow through the bi-directional coils assembly 631 is directed through the series combination of inductive coils L1 and L2." Ex. 2003, ¶ 156.

A POSITA would understand that passive components (such as capacitors, inductors, and resistors) that do not have current flowing through them cannot contribute to a circuit's impedance and, therefore, cannot be used to modify the form of received power, which is required by limitation [1.e]. Ex. 2003, ¶ 156. The only passive components contributing to received power within the bi-directional coil assembly 631 are the coils L1 and L2, which cannot constitute an "impedance network" since they make up the "coil" required by Claim 1, which is separate from the "impedance network." Ex. 2003, ¶ 156.

Dr. Phinney has apparently conceded that the coils used to receive wireless power cannot be part of the impedance network by his exclusion of L3 in his discussion of Fig. 6B. Ex. 1002, ¶ 142; *see also* Petition, p. 41. Even if they could be considered part of the impedance network, there is no disclosure in Chatterjee to

suggest that, in the circuit of Fig. 6A, L1 and L2 are in any way configurable to be changed while power is being received as required by the limitation [1.e]. Ex. 2003, ¶ 156. A POSITA would understand L1 and L2 to have fixed values for impedance. *Id.*

The circuit of Fig. 6B in the receiving power mode is highlighted in the image below.

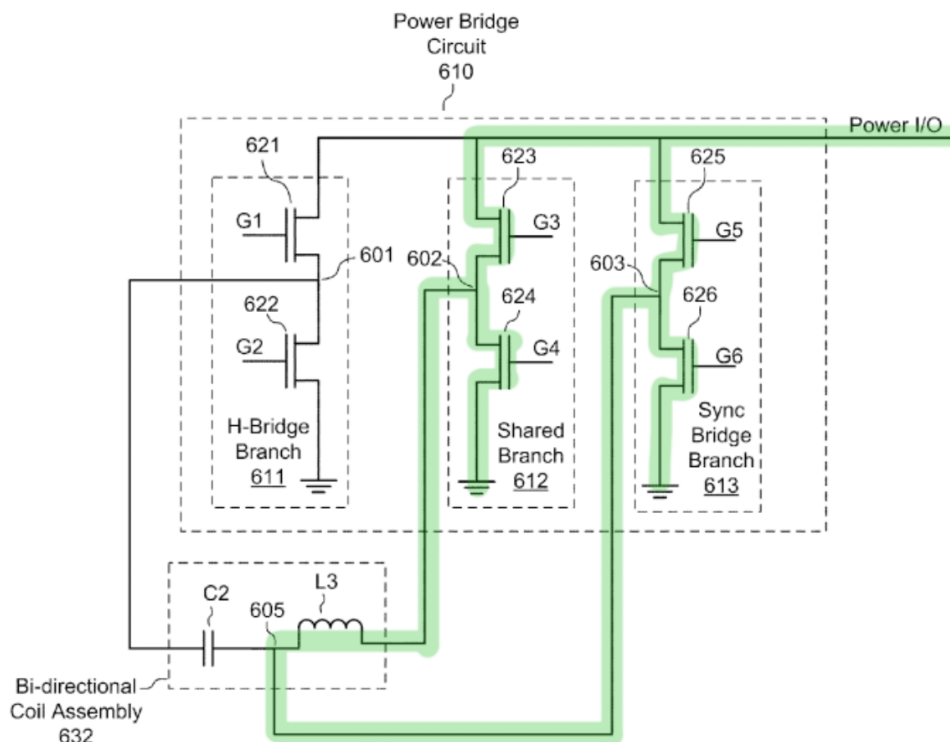


FIG. 6B

Ex. 2003, ¶ 157. The configuration of the circuit in this figure is nearly identical to that of Fig. 6A. *Id.* The difference is that there is a single coil, L3, in the circuit

rather than the series of inductors L1 and L2 from Fig. 6A. *Id.* The capacitor C2 is not part of this receiving power mode circuit configuration used to modify the form of received power. *Id.* The "coil" that receives power does not meet the limitation "impedance network." Ex. 2003, ¶ 157. Even if L3 could be considered the impedance network, it is in no way configurable to be changed as required by limitation [1.e]. Ex. 2003, ¶ 157.

The circuit of Fig. 6C in the receiving power mode is highlighted in the image below.

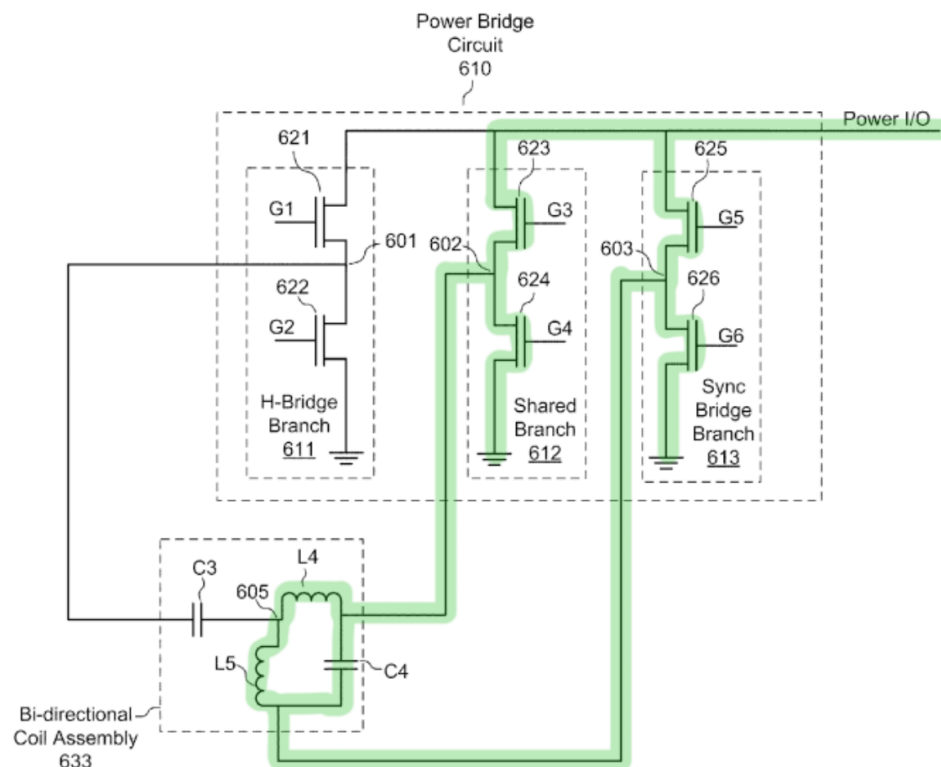


FIG. 6C

Ex. 2003, ¶ 158. The configuration is confirmed in Ex 1003, ¶ 71:

In the power receive mode, the H-bridge branch 611 is turned off and the current path through the bi-directional coil assembly 633 is the series combination of the inductive coils L4 and L5 in parallel with the capacitor C4.

Ex 1003, ¶ 71; Ex. 2003, ¶ 158.

A POSITA would understand that C3 has no current flowing through it and therefore is not part of the receive power mode circuit. Ex. 2003, ¶ 158. The inductors L4 and L5 make up the "coil" that receives wireless power. Exhibit 1002, ¶ 104; Ex 2003, ¶ 158. The capacitor C4 is the only remaining passive component that could be considered a candidate for "impedance network." It would be clear to a POSITA that in the circuit of Fig. 6C, the capacitor C4 cannot be configured to have its impedance changed during the receiving power mode as required by the limitation [1.e]. Ex. 2003, ¶ 158.

The circuit of Fig. 6D in the receiving power mode is highlighted in the image below.

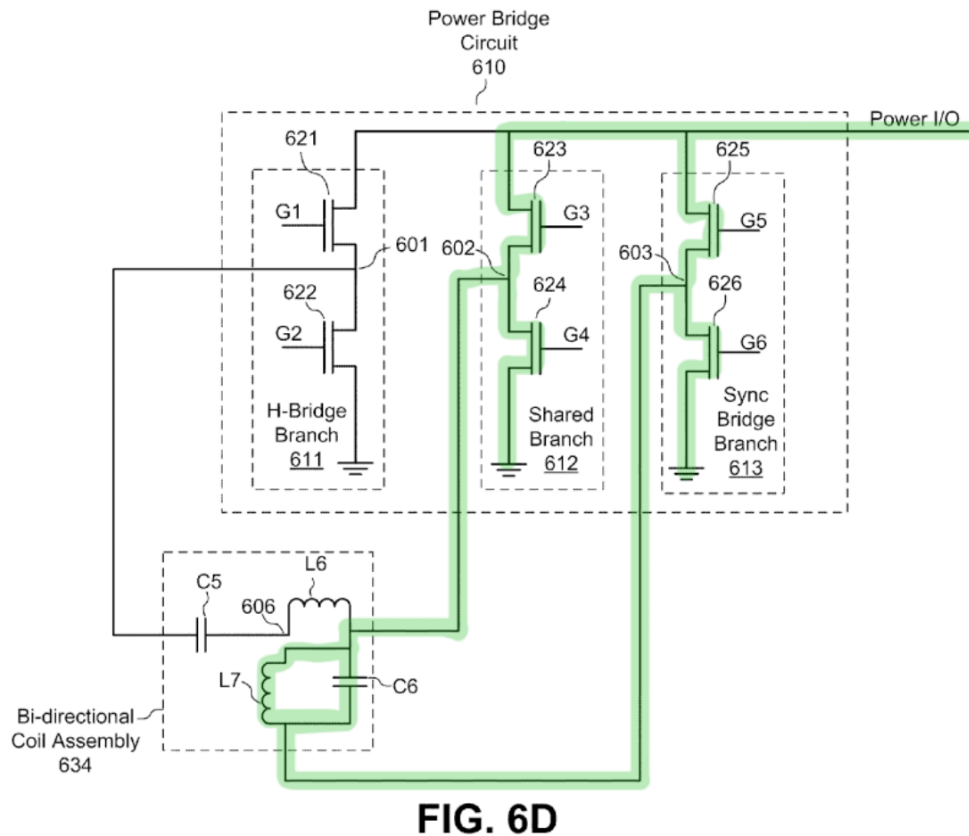


FIG. 6D

Ex. 2003, ¶ 159. The configuration of the circuit in this figure is very similar to that of Fig. 6C. *Id.* The difference is that current flows through the parallel combination of L7 and C6 and does not flow through the additional inductor L6. *Id.* The capacitor C5 and inductor L6 do not contribute to the received power because no current flows through them in the receiving power mode. *Id.* L7 is the "coil" described by Dr. Phinney. Exhibit 1002, ¶ 104. Again, the coil L7 cannot be counted as part of the "impedance network" since Claim 1 properly construed requires a separate coil. The capacitor C6 is the only remaining passive component that could be considered as part of an "impedance network." Ex. 2003,

¶ 159. However, evident from the circuit in Fig. 6D, C6 is in no way configured to have its impedance changed as required by the limitation [1.e]. *Id.*

In conclusion, the circuits of Figs. 6A – 6D when in the receiving power mode do not meet the limitation "impedance network" because the "two or more passive elements" required under a proper construction is not met. Furthermore, even to the extent the Board considers the components shown to be an "impedance network," the circuits shown and described in Chatterjee do not meet limitation [1.e] because the impedance of the circuits shown in Figures 6A – 6D, or any other Figures, cannot be changed while in the receiving power mode. Ex. 2003, ¶ 168.

C. Differences Between the Invention of Claim 1 and Corbridge

Corbridge (Ex. 1004), discloses a system having two devices, one device "capable of transmitting a power signal to a second device." ¶ [0027]. The first device acting as a charger is capable of "receiving feedback from the second device in order to regulate the power signal. Still further a communication protocol may be established to enable the real-time regulation of the power signal based on power conditions existing on the device receiving the power signal." *Id.*

The devices of Corbridge are different than the device of Claim 1 of the '339 Patent. For example, separate coils were used to transfer power and transfer data. *See, e.g.*, Fig. 9A (elements 830 and 832). Ex. 2003, ¶ 173. There is no disclosure

in Corbridge of a network having impedance that can be changed while receiving power as required by limitation [1.e]. *See* limitation [1.e].

Petitioner relies on Corbridge's disclosure of the communication protocol. More particularly, Petitioner relies on Corbridge to provide the two limitations that it concedes are missing from Chatterjee,

[1.g] said second circuitry, on power-up of said secondary wireless power receiver, configured to identify a type of said secondary wireless power receiver and identify a wireless power protocol of said secondary wireless power receiver;

[1.h] said second circuitry, configured to receive and interpret data from said secondary wireless power receiver in said identified wireless power protocol;

See Chart above; Petition, pp. 46, 55. Petitioner did not allege that Corbridge shows any other limitations of Claim 1. Therefore, it should be presumed, since Petitioner presents no evidence to the contrary, that all limitations of Claim 1 other than [1.g] and [1.h] are not found in Corbridge since Petitioner failed to present any evidence to the contrary.

D. Motivation to Combine

As to Claim 1, the Petitioner and its expert provided a rationale to combine the references for only a single limitation, 1[g], and appears to rely only on the rationale use of known techniques to improve similar devices (methods, or products) in the same way. Petition, pp. 53 - 55; Ex. 1002, ¶¶ 164 - 170.

Petitioner also relied on the combination of Chatterjee and Corbridge with regards to the deficiency of the teachings of Chatterjee as to limitation [1.h], but failed to provide any rationale. Petition, pp. 55 - 57; Ex. 1002, ¶¶ 174 - 177. Therefore, Petitioner has failed to carry its burden of proof as to the motivation to combine, which is an issue of fact. *Virtek Vision Intern'l ULC v. Assembly Guidance Systems, Inc.*, 97 F.4th 882, 886 (Fed. Cir. 2024).

The Board stated that Petitioner has addressed "how the combined disclosures in Chatterjee and Corbridge teach 'the claimed invention as a whole' according to § 103." Decision, p. 84. However, this is not the test. It is not enough to merely show that each limitation existed in the prior art. *Virtek*, 97 F.4th at 886. "[W]hen 'an expert purports to testify, not just to certain factual components underlying the obviousness inquiry, but to the ultimate question of obviousness, the expert must consider all factors relevant to that ultimate question." *Inline Plastics Corp. v. Lacerta Group, LLC*, 97 F.4th 869, 900 (Fed. Cir. 2024). Petitioner has not carried its burden of proof.

E. Claim 1, Considered as a Whole, Would Not Be Obvious to a POSA

Petitioner and its expert Dr. Phinney focused on whether each difference standing alone was "obvious," but never analyzed the claim as a whole in view of the differences identified. Petition, *e.g.*, p. 25 ("Chatterjee in view of the

knowledge of POSA renders obvious this limitation."); *see also* 35; 39; 43; 46; 52; 55; 57; 58. The "differences" must first be identified, and then, using this *Graham* factor, differences, and any others, consider whether the claim as a whole is rendered obvious. Dr. Phinney's Declaration concludes with a single paragraph addressing the last *Graham* factor, "objective indicia of obviousness. Ex. 1002, ¶ 199. What should have followed was an explanation of why the invention as a whole would have been obvious, including a motivation as well as likelihood of success as to the whole claimed invention, not just one component.

A determination of whether a claim is invalid as obvious under § 103 requires consideration of all four *Graham* factors, and it is error to reach a conclusion of obviousness ***until*** all those factors are considered.

Apple Inc. v. Samsung Electronics Co., Ltd., 839 F.3d 1034, 1048 (Fed. Cir. 2016) (emphasis added). "[W]hen 'an expert purports to testify, not just to certain factual components underlying the obviousness inquiry, but to the ultimate question of obviousness, the expert must consider all factors relevant to that ultimate question.'" *Inline Plastics Corp. v. Lacerta Group, LLC*, 97 4.th 869, 900 (Fed. Cir. 2024).

Here, Dr. Phinney did not even testify as to the "ultimate question of obviousness." Petitioner in the Petition did not address the ultimate question. *See*

Petition, p. 58 - 69 (ending discussion with the last limitation, but not addressing each claim as a whole). Therefore, Petitioner has not carried its burden of proof.

Furthermore, a finding of obviousness would not be proper here because the combination of Chatterjee and Corbridge are missing a number of limitations. *See* Section II (C) above (regarding all limitations must be met by the combination). Under a proper construction, "impedance network" and limitation [1.e] are not met by Chatterjee standing alone. Corbridge does not make-up for the missing limitations, properly construed. Ex. 2003, ¶¶ 176 - 180. In view of these limitations missing from the combination of Chatterjee and Corbridge, the Petitioner has not met its burden of proof. In addition, as shown by Dr. Direen, viewing Claim 1 as a whole, the invention of Claim 1 would not have been obvious to the POSITA in view of Ground 1, the only ground raised in the Petition. Ex. 2003, 180.

IX. CONCLUSION

Because Petitioner has failed to show by a preponderance of the evidence that the Challenged Claims are invalid, the Board should enter a final decision affirming the validity of the claims.

Date: June 5, 2024

Respectfully Submitted,

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CERTIFICATE UNDER 37 C.F.R. § 42.24(d)

This Preliminary Response complies with the type-volume limitation of 14,000 words. As calculated by the word count feature in Microsoft Word, it contains 13,920 words, excluding the parts exempted by 37 C.F.R. §§ 42.24(a)-(b).

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CERTIFICATE OF SERVICE

I, Brian A. Carpenter, hereby certify that on the 5th day of June 2024, the foregoing PATENT OWNER'S RESPONSE was served on the following via electronic mail:

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LIST OF EXHIBITS

Exhibit Number	Exhibit
2003	Declaration of Dr. Randal H. Direen in Support of Patent Owner's Response (the "Direen Decl.")
2004	Provisional Application No. 61/682,312 (the "'312 Provisional")
2005	Redline comparison of '312 Provisional to '929 Patent
2006	Redline comparison of '310 Application to '339 Patent