

IN THE 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'S REPLY IN SUPPORT OF REVISED
MOTION TO AMEND**

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WiPQTUS, Inc. ("WiPQTUS") hereby replies to *Petitioner's Opposition to ... Revised [MTA]* (the "Response"). The only disputed requirement for amendment is patentability. Response, *e.g.*, *ii*. Petitioner asserts that the substitute claims are unpatentable for (1) lack of enablement, (2) indefiniteness, and (3) obviousness. Petitioner has the burden of proof. 37 C.F.R. § 42.121(d)(2).

I. SUBSTITUTE CLAIMS 21 AND 22 ARE ENABLED

Petitioner bases its non-enablement argument on the limitation: "first circuitry, based on input from control logic circuit, configured to change, ... the ... topology of switch network... ." Response, p. 5. As explained by Dr. Direen, "[a] circuit being 'configured to change, while configured to receive said power, the . . . topology of said switch network to obtain a modified form of said received power' would require at least additional control logic that is able to monitor the power delivered to the battery and the system and manage the topological changes." Ex. 2008, ¶ 73. As further explained, "Cook does not contain any control logic to monitor the power delivered to a system battery for the purpose of managing responsive topological changes to the rectifier." Ex. 2008, ¶ 75.

Petitioner failed to state the law on enablement much less apply the law to the facts.

"To prove that a claim is invalid for lack of enablement, a challenger

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must show by clear and convincing evidence that a person of ordinary skill in the art would not be able to practice the claimed invention without 'undue experimentation.'" *Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1188 (Fed. Cir. 2014) (quoting *In re Wands*, 858 F.2d at 736–37).

Enzo Life Sciences, Inc. v. Roche Molecular Syst.s, Inc., 928 F.3d 1340, 1345-46 (Fed. Cir. 2019). At least seven factors to be used in analyzing undue experimentation. *Id.* (citing *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)). A reasonable amount of experimentation is permissible so long as it is not "undue." *ALZA Corp, v. Andrx Pharms., Inc.*, 603 F.3d 935, 940 (Fed. Cir. 2010). After all, "[p]atents are not production documents... ." *Christianson v. Colt Inds. Op. Corp.*, 822 F.2d 1544, 1562 (Fed. Cir. 1988), *vac'd on other grnds*, 486 U.S. 800 (1988).

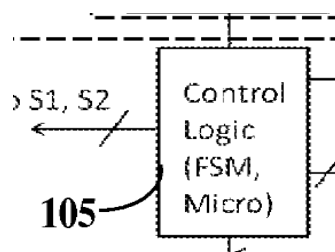
The word "experimentation" appears once in Phinney's Declaration. Ex. 1021, ¶ 4. Paragraph 20 of his Declaration is sparse and does not even mention experimentation. Ex. 1021, p. 10; Response, p. 6. Petitioner confuses claim construction with enablement. To say that Claim 21 does not require "monitoring power delivered to a battery" is a claim construction not enablement argument. Petitioner sets-up Direen's use of the word "monitoring," which he used as a shorthand for what the Claims require, as a strawman. It is the claim itself that must be enabled. Claim 21 requires "said first circuitry, based on an **input from said control logic circuit**, configured to change, ..., **to obtain a modified form of said**

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received power, and apply said modified form of said power to said load device." Petitioner failed to provide any interpretation of these portions.

Enablement is a question of law based on underlying facts. *ALZA*, 603 F.3d at 940. Because Petitioner failed to provide any evidence regarding experimentation, Petitioner's non-enablement argument should be dismissed.

Nevertheless, Claim 21 is enabled. What is required by the claim language pertaining to the "control logic" is disclosed in sufficient detail in the '929 Patent to meet the enablement requirement of Section 112. For example, the "control logic circuit 105" is described as making two adjustments, one to impedance and one to the "topology of the switch network 102" based on two different inputs, (1) the type of wireless transmitter that is sending the power and (2) "the level of wireless power being received." '929 Patent, 8:55-61. The '929 Patent discloses that the control logic can be implemented by at least a finite state machine ("FSM") or a microprocessor. This is shown in Figure 1:



Ex. 2002, Fig. 1. Element 105 is described: "[t]he control logic 105 is, for example, a state machine, a microcontroller, etc." 7:8-9. A state machine provides an output

based on one or more inputs. IBM Dict. of Computing, p. 273 (McGraw-Hill 1994), Ex. 2010, p. 273 (“finite state machine”); Ex. 2011, ¶ 11. The '929 Patent describes two inputs. 8:55 - 61. Claim 21 does not recite “the type of wireless transmitter.” The output is a control signal that causes the impedance and topology to change. It would be well within the knowledge of a POSA to design control logic based on the description given without undue experimentation. Ex. 2011, ¶ 11. Thus, Claims 21 and 22 are enabled.

II. WIPQTUS' CONSTRUCTION IS CORRECT AND SUBSTITUTE CLAIMS ARE NOT INDEFINITE

A. WiPQTUS' Claim Construction is Correct

The Revised MTA turns in part on the proper construction of the word “topology” and “change ... topology.” WiPQTUS contends that “topology” would be understood by a POSA to mean “a collection of circuit components that perform a type of rectification or a type of power inversion.” Revised MTA, p. 19; Ex. 2008, ¶ 22. Further, “change topology ... of switch network” would be understood by a POSA to mean “configured to change the topology in a way that changes the type of rectifier or the type of inverter or a rectifier to an inverter or an inverter to a rectifier of the switch network circuit.” Revised MTA, pp. 20 - 21; Ex. 2008, ¶ 42.

Petitioner has not provided any alternative construction. Rather, Petitioner simply urges the Board to not "disturb" its apparent preliminary construction. See Response, pp. 4 - 5; Prel. Guid. (Paper 15), p. 17. The Board correctly disagreed with Petitioner's assertion of indefiniteness. Prel. Guid., pp. 16 - 17. However, its statement as to what the claim term "appears to encompass" was preliminary and does not constitute a proper construction supported by a *Phillips* analysis: "... based on the **current** record, the claim language 'change ... topology of said switch network' appears to encompass changing the connected/disconnected states of the switches and changing from an inverter to a rectifier (or the opposite)." Prel. Guid., p. 17 (emphasis added).

Now with the issue fully briefed, WiPQTUS urges that the Board adopt WiPQTUS' proposed construction of "topology" and "change ... topology of the switch network." See Revised MTA, pp. 19 - 21. Under this proper construction, simply changing of MOSFETs in an H-Bridge, for example, at a rapid rate, which Direen referred to as "cycling" (see Ex. 2008, ¶¶ 31 - 32), within a **particular** topology (*e.g.*, non-synchronous, half-synchronous, and full synchronous) does not constitute a "change" in "topology." It is true that in any particular topology individual or pairs of switches at any given moment will be on or off, which Dr. Direen referred to as cycling. This cycling within a particular rectifier topology

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does not constitute a change in topology. In the context of limitation 21[e], the change must be from one rectifier to another type of rectifier. What is required under a proper construction is that a circuit be changed from one topology, that is, a type of rectifier, such as half-synchronous, to another type, such as full-synchronous.

Petitioner attempts to make much of the fact that "the **example** of changing from a non-synchronous rectifier to a fully synchronous rectifier is not disclosed in the '312 Provisional Application." Response, p. 2 (emphasis added). However, that fact is irrelevant. As explained in WiPQTUS' Sur-Reply (Paper No. 16), "the earlier '312 Provisional or, alternatively, the Application for the '929 Patent controls the construction of Claim 1." See Sur-Reply, p. 14 (heading 1); 15; Revised MTA, p. 19 (re. Cls. 21 and 22). In support of its construction of "topology" and "change ... topology," WiPQTUS cited to portions of the '310 Application for the '929 Patent and did NOT cite the '312 Provisional. See Revised MTA, pp. 19 - 21. Claims are to be construed as of the earliest effective filing date, which here is at least as early as the '310 Application. Furthermore, Direen explained in his most recent deposition that the '312 Provisional **does** support WiPQTUS' construction of "change topology of ... the switch network." Exhibit

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1020, p. 53 of 152, l. 6 - p. 56, l. 19. It merely lacks the **example** provided in the '310 Application. Ex. 1020, p. 54, ll. 15 - 16.

Petitioner's second argument relies on the claim chart (Exhibit 1016) that was part of WiPQTUS' initial disclosures. Response, p. 2. What Petitioner failed to submit is the cover document, *Plaintiff's Disclosure of ... Preliminary Infringement Contentions...*, which is herewith submitted as Exhibit 2009. The word "Preliminary" means just that. These disclosures were made before any exchange of claim terms, proposed constructions, or briefing. As stated therein: "WiPQTUS reserves the right to amend these contentions in the event that the Court construes terms of the Asserted Claims." Ex. 2009, p. 4; *see also* Ex. 2 (Ex. 1016), p. 3.

The E.D. Texas strictly enforces Local Patent Rules 3-1 and 3-2. Amendments to the PICs are not routinely allowed. "Amendment under P.R. 3-6(a)(1) must be in response to an 'unexpected or unforeseeable' claim construction ruling by the court." *Implicit, LLC v. Huawei Techs. USA, Inc.*, 2018 WL 11182156, *4 (E.D. Tex. July 2, 2018). What this means in practice is that the Plaintiff must imagine all possible ways that a claim could be construed, and provide an infringement read under each foreseeable construction. This is precisely what is shown in the PICs referenced by Petitioner.

Petitioner (p. 4) in citing Direen's testimony engages in pure sophistry in picking one sound-bite out of a lengthy discussion and attempting to contort it to mean something different than what it says. Response, p. 4. Direen carefully laid-out his positions in his Declaration (Ex. 2008) in explaining his highlighted Fig. 6A of the '929/'339 Patents. In Paragraph 33, Direen explained how the four switches shown S3, S4, S5, and S6 are utilized in three different topologies, non-synchronous, half-synchronous, and fully synchronous rectifiers. In his explanation, he used the word "fixed," meaning open or closed, to refer to how a particular switch or group of switches behaved in a particular topology. "Fixed" was used to distinguish from a switch that was "cycling" (*i.e.*, "rapidly turn on and off" in sync with the incoming alternating signal, *see* Ex. 2008 ,¶¶ 37-39; 54) within a particular topology, that is, a type of rectifier. For example, in Paragraph 32, Direen explained that in the 'half-synchronous" topology, switches S3 and S5 "are open", and switches S4 and S6 "are cycled."

Direen's answers in the entire line of questioning are completely consistent with his Declaration. Ex. 1020, 58:21-74: 4. In the portion Petitioner quoted, Direen stated that "the **way** that the switches are being used in the switch network determines .. the topology of the switch network." Ex. 1020, 70: 7-13 (emphasis added). In the context of the portion of his Declaration being discussed, Direen's

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use of the word "**way**" meant fixed, that is open or closed, to determine the type of topology for the entire period that a particular topology was in use versus "cycling" within a particular topology. The dialog went on for sixteen pages (pp. 58 - 74); Direen's testimony was entirely accurate and consistent. For example, Direen explained that:

the difference between half-synchronous and full-synchronous is that ***in the half-synchronous S3 and S5 remain open during the operation of the rectification and in the full-synchronous version none of ... those four switches stay stationary during the operation, they all synchronously turn on and off*** with the incoming signals.

Ex. 1020, 72:18 -73:3l. 3; *see also, e.g.*, 88:7 - 13 ("left open"). Again, "stationary," meaning fixed, was used in contrast to "cycling."

Claims 21 and 22 require more than just, for example, the well-known "H-bridge" circuit. The claims require a particular functionality, that the "first circuitry" have a "switch network" having multiple possible topologies, and that during the "receiving power" mode, the "switch network" can be changed from one rectifier topology to another "based on input from said control logic." Direen illustrated three rectifier topologies using Fig. 6A and the description found at '929 Patent, 14:41-58. Ex. 2008, ¶¶ 30 - 35. In the non-synchronous topology, the four switches (S3 - S6) are disabled, that is fixed and not cycled. In the half-synchronous rectifier topology, switches S3 and S5 are left open, that is fixed and

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not cycled, and switches S4 and S5 are cycled. In the fully synchronous topology, all four switches are cycled in pairs, and the diodes are in effect out of the circuit.

Ex. 2008, ¶¶ 33 - 34. WPQTUS' constructions of "topology" and "change ...

topology" are well supported as demonstrated in the Revised MTA (pp. 19 - 21).

Simply rapidly cycling switches *within* a single topology, such as the fully synchronous rectifier topology, does not meet the limitation "topology" or "change ... topology of the switch network" as correctly construed. Ex. 2008, ¶¶ 35; 54.

B. Claims 21 and 22 are not Indefinite

Petitioner quibbles with WiPQTUS' construction of "change ... the topology..." while failing to offer its own construction. Petitioner has not pointed to any indefiniteness in the claim itself much less explained why the claim as written is indefinite. Instead, Petitioner's argument focuses on the specification's discussion of a Class D and E inverters (4:15-16) and Direen's reluctance to discuss them until he had a chance to review those specific circuits. Petitioner misrepresents the exchange. As an initial matter, counsel asked about "Class D and E" *rectifiers*, which are not even mentioned in the '929 Patent. Ex. 1020, 79:15–16. Direen explained generally what these classes of rectifiers did but declined to provide an opinion as he wanted to review the details of the circuits since he had not "studied them recently." *Id.* at ll. 18–20. Direen had no problem understanding

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the claim language as shown by the fact that he performed a *Phillips* analysis and provided a construction. Ex. 2008, ¶¶ 22-41; Ex. 2011, ¶¶ 14-17.

A patent is indefinite if “its claims ... fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). “[A]bsolute precision” in claim language is “unattainable.” *Id.* at 2129. Here, the allegedly indefinite terms meet the requirement of reasonable notice to the POSA. Petitioner has not provided any explanation or evidence to the contrary. Notably, Phinney did not even attempt to construe “topology,” nor did he explain the two types, D and E, of inverters or their relevance. Ex. 1021, ¶ 23 Claims 21 and 22 as written are not indefinite. Ex. 2011, ¶¶ 14-17.

III. PROPOSED SUBSTITUTE CLAIMS ARE PATENTABLE

Petitioner relies on the combination of Chatterjee, Corbridge, Cook, and ill-defined “Knowledge of a POSA, ” which it casts as two “grounds”: the first under its non-construction of “topology” and “change ... topology,” and the second under WiPQTUS’ correct construction. Response, p. 7. WiPQTUS’ construction is correct, so there is no need to address the “first” ground. As to the “second ground,” Petitioner, even though it submitted yet another declaration, fails to show that the combination of Chatterjee, Corbridge, and Cook teaches or suggests “first

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circuitry" that, "based on input from said control circuit logic," is "configured to change, while configured to receive said power, the impedance of said impedance network and topology of said switch network to obtain a modified form of said received power." Ex. 2008, ¶ 59.

As previously explained, neither Chatterjee, Corbridge, or Cook show the "first circuitry" with control logic and the ability to make topological changes to the switch network. Ex. 2008, ¶¶ 72 - 79. Direen previously noted: "nor does Dr. Phinney explain in any detail how Corbridge could be modified..." *Id.* at ¶ 77. Apparently in response, Phinney provided his Second Supp. Decl. (Ex. 1021) to explain how Corbridge might be combined with Chatterjee and Cook to meet the "change ... topology of the switch network." Ex. 1021, ¶ 88. However, Phinney is mistaken in his explanation of how the circuit of Corbridge operates as Direen explains in detail in his Declaration submitted herewith. Ex. 2011, ¶ 19-29. Corbridge merely provides alternative configurations of a rectifier, but nowhere does it discuss changing between two types of rectifiers much less for control logic to cause such a change. Ex. 2011, ¶¶ 18-27. Phinney (Ex. 1021, ¶¶ 82 - 86; 88 - 89) points Fig. 7B for "control logic," but as explained by Direen none is to be found. Ex. 2011, ¶¶ 19-21. Thus, in view of these deficiencies and the reasons previously stated (Response, pp. 21 - 23), the MTA should be granted.

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Date: December 12, 2024

/s/ Brian A. Carpenter

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USPTO Reg. No. 37,109

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

This Patent Owner's Reply in Support of Revised Contingent Motion to Amend Under 37 C.F.R. § 42.121 complies with the page limitation of 12 pages pursuant to 37 C.F.R. §§ 42.24(a)(1)(vi).

/s/ Brian A. Carpenter

Brian A. Carpenter

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(b), the undersigned certifies that on December 12, 2024 a copy of this PATENT OWNER'S REPLY IN SUPPORT OF REVISED CONTINGENT MOTION TO AMEND UNDER 37 C.F.R. § 42.121 was served on the following via electronic mail:

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LIST OF EXHIBITS

Exhibit Number	Exhibit
2009	Plaintiff WiPQTUS Inc's Disclosure of Asserted Claims and Preliminary Infringement Contentions
2010	IBM Dictionary of Computing, p. 273 (McGraw-Hill 1994)
2011	Declaration of Dr. Randal H. Direen in Further Support of Patent Owner's Revised Motion to Amend and in Rebuttal to Second Supplemental Declaration of Joshua Phinney