

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROCHIP TECHNOLOGY INC.,
Petitioner,

v.

APTIV TECHNOLOGIES AG AND APTIV TECHNOLOGIES LIMITED,
Patent Owners.

Case No. IPR2024-00496
U.S. Patent No. 10,545,899

**PETITIONER'S REQUEST FOR
DIRECTOR REVIEW**

TABLE OF CONTENTS

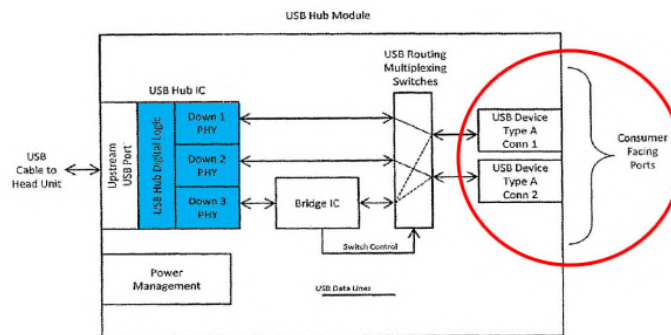
TABLE OF CONTENTS	i
LEGAL STANDARD	3
BACKGROUND	3
A. Procedural Background.....	3
B. The '899 Patent.....	4
C. The Asserted Ground and Petitioner's Indefiniteness Contingency	5
D. Patent Owner's Preliminary Response	6
E. The District Court <i>Markman</i> Order—Claim 1 is Not Indefinite	7
F. The Board's Institution Decision	7
1. The Majority Opinion	8
2. The Dissent	9
ARGUMENT.....	11
A. The Majority Abused Its Discretion By Failing to Apply an Agreed-Upon Construction or Otherwise Construe the Claims	11
B. The Majority Abused Its Discretion By Failing to Perform a Prior Art Analysis	13
C. The Majority Erred by Overlooking/Misapprehending Key Arguments	15
D. Additional Considerations Favor Director Review.....	15

Less than one percent of institution decisions draw a dissent, much less a 27-page dissent from a thirty-year PTO veteran that bears directly on the PTAB's core responsibilities: to analyze the prior art and, if necessary, construe the claims. Paper 10 ("Dec."), 15-41, esp., 15-21. The majority abused its discretion here by abdicating that responsibility. *Id.*, 8-12. After both the district court and PTAB majority found the sole independent claim ***not indefinite***, the majority refused to apply an agreed upon meaning of the term "***having***," or provide any alternate meaning. *Id.*, 10. On this basis alone, the majority refused to undertake a substantive prior art analysis. *Id.*, 11-12.

Ironically, had the majority concluded claim 1 was indefinite, binding Federal Circuit precedent would have required it to determine whether a prior art analysis was possible and, if so, to conduct the analysis. *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 812-14 (Fed. Cir. 2021). The logic of the *Intel* holding applies with even more force here, where the claim was found not indefinite.

Petitioner asserted that "[i]f the claims are not indefinite, it is because the claimed 'USB hub' (shown in blue below in Fig. 4 of the '899 patent) is deemed to 'ha[ve]' a plurality downstream consumer facing USB ports (circled in red), even though the ports are not actually part of the 'USB hub.'" Paper 2 ("Pet."), 26. PO ***expressly agreed***, stating: "[A] POSITA would understand that the plurality of USB ports the hub 'has' must include downstream ports." Paper 7 ("POPR"), 19.

Figure 4



Pet., 26 (citing EX1007 (the “’899 patent”), Fig. 4 (annotated)).

Thus, it would have been straightforward for the majority to perform its duty. Indeed, the dissent had no difficulty concluding that “[a] POSITA, having read the entire ’899 patent would readily appreciate that, when read in light of the Specification, the disputed claim requires a hub interconnecting a plurality of USB ports (i.e., USB consumer facing ports) to the USB host.” Dec., 21. This is exactly what Petitioner argued. Pet., 26-28.

Notably, Patent Owner (“PO”) never argued the combination of Chang and Chang II (the sole Ground) failed to satisfy the “*having*” limitation (or any claim element for that matter). *See generally* POPR. Rather, the POPR only challenged motivation to combine (*see id.*, 21-34), which the Board found sufficient on identical facts in five related petitions. *See, e.g.*, IPR2024-00228, Paper 13, 28-38.

This request has some unique facts which make it easy to decide, but the underlying legal principle is fundamental and has broad applicability, making it an

excellent candidate for Director Review. The majority abused its discretion by failing to (1) construe the claims to the extent necessary to resolve the controversy; (2) perform any prior art analysis; and (3) address all of Petitioner’s arguments. Each error was fundamental and Petitioner respectfully requests Director Review.

LEGAL STANDARD

Director Review of a Board decision whether to institute trial is appropriate to address an (1) abuse of discretion, or (2) important issue of law or policy.

Revised Interim Director Review Process, §3(A) (Apr. 16, 2024).

BACKGROUND

A. Procedural Background

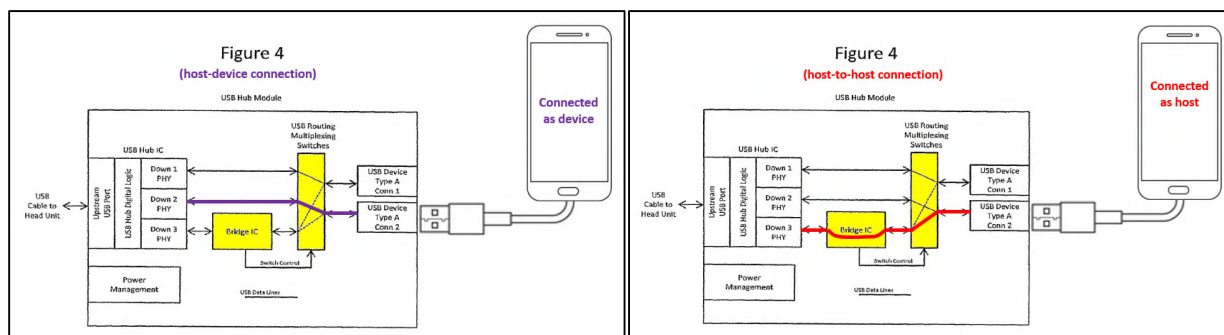
PO (Aptiv) sued Petitioner (Microchip) in district court, asserting six related patents from the same family. *See* Second Amended Complaint, *Aptiv Techs. Ltd. v. Microchip Tech. Inc.*, No. 1:23-cv-00307-JDW, Dkt. 100 (D. Del., Mar. 20, 2023). Petitioner filed seven *inter partes* review petitions and one *post-grant* review challenging all asserted patents on substantially identical prior art. *See* Pet., 90 (listing related proceedings). Petitioner filed two “waves” of four petitions each, with most second wave petitions (including the ’899 petition) contingent on the claims being found not indefinite by the district court. *See, e.g., id.*, 25-28.

After all petitions were filed, the district court issued a *Markman* order (timely made of record) finding no claims indefinite. *See* EX1080 (*Markman* ruling). Following institution of the Wave 1 petitions, the district court stayed the

case. *See Aptiv Techs.*, No. 1:23-cv-00307-JDW, Dkt. 207. The Board subsequently instituted one Wave 2 petition (not contingent on definiteness) before denying the '899 patent. At present, five petitions stand instituted, one denied (the '899 patent), and two remain pending (similarly contingent on definiteness).

B. The '899 Patent

The '899 patent (like all six related patents) discloses a USB hub with one upstream port and multiple downstream “consumer facing ports.” *See, e.g.*, EX1007, Fig. 4 (consumer ports on right); 2:2-5 (“USB Hubs allow a single USB Host to connect to multiple USB Devices.”). Fig. 4 illustrates the '899 patent’s purported novel invention, *viz.*, adding a routing switch and host-to-host bridge to a traditional USB hub IC. *See, e.g., id.*, 5:24-27, 5:49-6:67. The bridge enables host-to-host communications through the hub. *Id.*, 6:8-13. Because consumer products may be dual-role (*i.e.*, host or device), the switch enables bypassing the bridge (for host-device communication) or utilizing the bridge (for host-hot communication) based on the downstream product’s operating mode as shown in annotated Fig. 4 below. *Id.*, 6:8-16; Pet., 15-16 (citing Fig. 4).



The '899 patent has one independent claim and six total claims. EX1007.

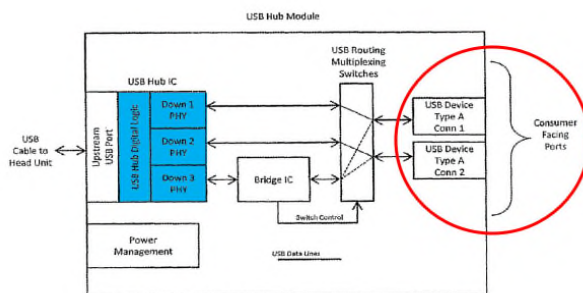
Relevant here, claim 1 requires “*a USB hub having a plurality of USB ports interconnected to the USB host.*” *Id.*, cl. 1 (claim language in red throughout).

C. The Asserted Ground and Petitioner’s Indefiniteness Contingency

Petitioner raised a single Ground (obviousness over Chang in view of Chang II) against all six claims. Pet., 4. The Petition was contingent on claim 1 being found not indefinite. *Id.*, 24-28 (“Petitioner submits only one claim construction is necessary to decide this proceeding—*viz.*, whether '899 patent claim 1 is indefinite (*i.e.*, nonsensical) or whether it should be revised as Aptiv proposes.”).

Petitioner expressly asserted that “[i]f the claims are not indefinite, it is because the claimed ‘USB hub’ (shown in blue [in '899 patent Fig. 4]) is deemed to ‘ha[ve]’ a plurality [of] downstream consumer facing USB ports (circled in red), even though the ports are not actually part of the ‘USB hub.’” *Id.*, 26.

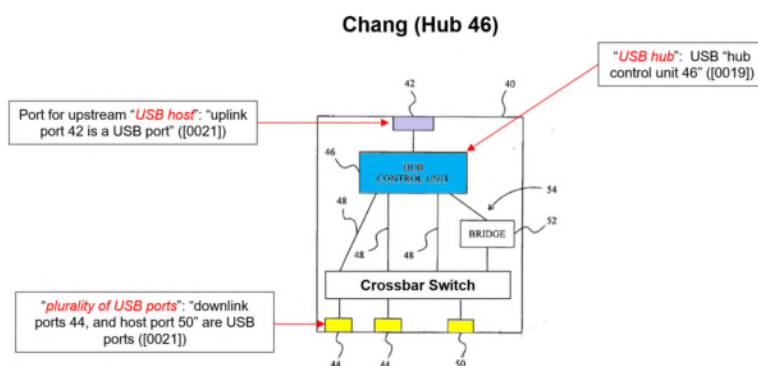
Figure 4



Id., 26 (citing EX1007, Fig. 4 (annotated)). PO used the phrase “interconnected to” as one way to describe the “having” relationship in claim 1, and thus “[f]or

ease of analysis, Petitioner use[d] Aptiv’s ‘interconnected to’ language,” but Petitioner expressly noted the results would be the same if another descriptor (*viz.*, “possessing”) was used. *Id.*, 27.

More fundamentally, however, Petitioner explained that “[r]egardless of the phrasing, Aptiv’s position is that downstream consumer ports satisfy the claim and render it not indefinite. Petitioner demonstrates unpatentability of the Challenged Claims under this construction.” Pet., 27. Applying this interpretation (*i.e.*, a hub “having” downstream consumer ports), Petitioner cited Chang and identified the “USB hub” as “having” the “plurality of USB ports” shown below.



Id., 55 (citing EX1014 (Chang), Fig. 3 (modified and annotated)).

D. Patent Owner’s Preliminary Response

PO filed a Preliminary Response which concluded briefing. The POPR challenged only motivation to combine, and never disputed that the Chang/Chang II combination failed to satisfy any claim limitation. *See* POPR.

With respect to the “having” limitation, PO (and its expert) *expressly (and*

repeatedly) agreed with Petitioner, stating “a POSITA would understand that the plurality of USB ports the hub ‘has’ must include downstream ports.” POPR, 19; *see also* EX2001, ¶¶96-99 (“The hub ‘has’ downstream consumer [] ports”). The POPR asserted “there is only one reasonable interpretation,” and explained why at p. 20. Thus, the parties agreed that (if the claim is not indefinite) the downstream consumer ports satisfy the “USB Hub having a plurality of ports” limitation.

E. The District Court *Markman* Order—Claim 1 is Not Indefinite

Relevant here, the district court found ’899 claim 1 not indefinite. EX1080, 13-16. The district court summarized the parties’ positions as follows:

This dispute turns on the Parties’ competing definitions of “having.” ... Microchip argues that “having” must mean “to include as parts.” Under its reading, because the claim “recite[s] a USB hub that *has* (i.e., includes as parts) a ‘first USB port’ and [] is *connected* to that same port” the claim is “nonsensical.” Aptiv, sourcing its definition from Merriam Webster, defines “having” more broadly as “possessing.” Using Aptiv’s definition, there’s no inconsistency

Id., 13-14 (emphasis in original, citations omitted).

The district court rejected that “having” requires “to include as parts,” and agreed with Aptiv that “the term is not indefinite.” *Id.*, 13, 16. Because “[t]he Parties briefed this issue as one of indefiniteness,” the Court left open further construing the phrase if necessary. *Id.*

F. The Board’s Institution Decision

In a rare split decision that featured an impassioned 27-page dissent (from 18-year APJ), the Board majority denied institution. Dec., 13.

1. The Majority Opinion

After instituting five proceedings on related patents and identical prior art, the majority denied institution on the '899 patent in a scant 12-page opinion. Dec., 11-12. The majority denied institution—not because it concluded the prior art failed to disclose a limitation—but because it refused to even consider that question. Dec., 11-12. The majority's heading titled "The Petition Fails To Show The Cited Art Discloses All Elements of Claim 1 As Recited" is one-page and *lacks a single reference to the prior art*. *Id.*, 11-12. The majority did not analyze the prior art because Petitioner contended in district court that the plain meaning of the "having" limitation rendered the claim indefinite. *Id.* But the district court and majority disagreed, finding the claim not indefinite. *Id.*, 12; BACKGROUND, §E. Indeed, the Petition was premised (*i.e.*, contingent) on such a finding. Pet., 24-28.

The majority, however, went further and (incorrectly) asserted the Petition was "contingent upon a particular construction of claim 1 being adopted in the district court." Dec., 9. In particular, the majority held the Petition was contingent on the district court construing "having" as "interconnected to" or "possessing." *Id.* Petitioner used those phrases because PO did. But Petitioner was clear that "[i]f the claims are not indefinite, it is because the claimed 'USB hub' (shown in blue below in Fig. 4 of the '899 patent) is deemed to 'ha[ve]' a plurality downstream consumer facing USB ports (circled in red), even though the ports are

not actually part of the ‘USB hub.’” Pet., 26. This interpretation—which PO agreed with—was not premised on any magic phrase. *See, e.g., id.*, 27 (“the results are the same if ‘possessing’ was used”). And Petitioner was clear that “[r]egardless of the phrasing,” “Petitioner demonstrates unpatentability of the Challenged Claims under [a] construction” in which “downstream consumer ports satisfy the claim and render it not indefinite.” *Id.*, 27.

At one point, the majority stated “[w]e apply the plain and ordinary meaning to the phrase ‘a USB port **having** a plurality of USB ports’¹” (*id.*, 11 (emphasis original)), but it never analyzed any intrinsic evidence, said what the meaning was, or whether it included downstream consumer ports, nor did it perform any prior art analysis. Dec., 8-12. On this specious basis, the majority denied institution. *Id.*

2. The Dissent

In a comprehensive 27-page dissent, Judge Homere did exactly what the Majority failed to do—*i.e.*, analyzed the “having” limitation and applied the prior art. *See* Dec., 15-41. Having performed a substantive analysis, the dissent readily concluded the Petition “establishes a reasonable likelihood that Petitioner would

¹ Petitioner notes the majority misstates the claim language five of six times it is used. *See* Dec., 9, 11-12. The limitation states “a USB hub having a plurality of USB ports” (EX1007, cl. 1), not “a USB port having a plurality of USB ports.”

prevail.” *Id.*, 41. The dissent found “no legal basis to support the majority’s refusal to institute” (*id.*, 16-17) and “t[ook] exception to [the majority’s] conclusory determination,” which “provid[ed no] independent analysis of the disputed claim limitation” and “offer[ed] no rhyme or reason in support of its [conclusion]” (*id.*, 18). The dissent noted “the Board may decline to adopt a proposed claim construction,” but must construe terms to the extent necessary to resolve the controversy (*see id.*, 19 (citing cases)), and that “even if we decline to adopt [Petitioner’s proposal], such a refusal is not *per se* determinative” (*id.*, 16).

The dissent considered the district court opinion and “independent[ly] review[ed] the ’899 patent in its entirety.” Dec., 19. The dissent explained that “[a] POSITA, having read the entire ’899 patent *would readily appreciate* that, when read in light of the Specification, *the disputed claim requires a hub interconnecting a plurality of USB ports (i.e., USB consumer facing ports) to the USB host.*” *Id.*, 21 (emphasis added). The dissent further explained that “while the plain meaning of ‘having’ is not equivalent to ‘interconnected to,’ I agree with Petitioner that construing ‘having’ to encompass ‘interconnected to’ more accurately captures the essence of the invention.” *Id.*; *see also id.* 21 (“the proposed claim construction [] comports with Petitioner’s”), 29.

The dissent then analyzed all claim elements against the prior art, including the “having” limitation. Dec., 26-35 (esp. 29). The analysis was straightforward

because “[o]ther than arguing there is no motivation to combine [], Patent Owner does not specifically respond to these arguments.” *Id.*, 29. To be sure, the dissent also analyzed motivation to combine. *Id.*, 35-40. After doing so, it found “a reasonable likelihood that Petitioner would prevail [on at least one claim].” *Id.*, 41.

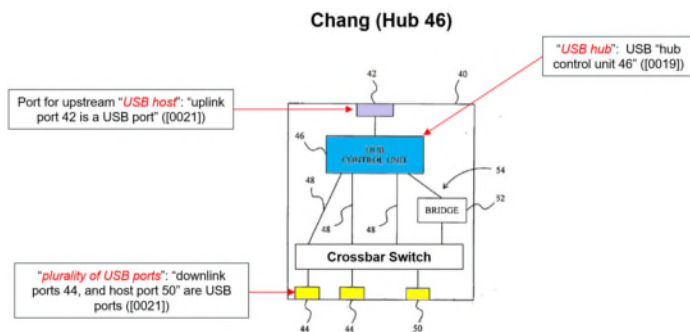
ARGUMENT

A. The Majority Abused Its Discretion By Failing to Apply an Agreed-Upon Construction or Otherwise Construe the Claims

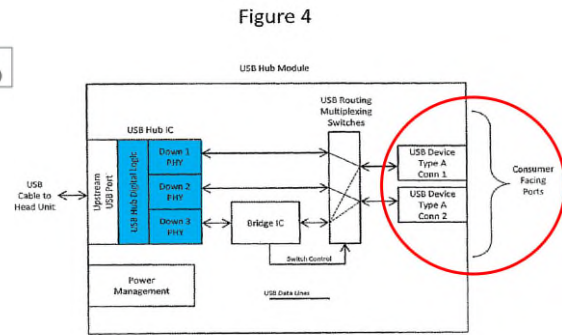
It is well-established the Board only construes claim terms when necessary, and to the extent necessary, to resolve the controversy. *See, e.g., Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019). A corollary is that the Board ***must*** construe the claims if necessary, and to the extent necessary, to evaluate a petition’s merits. *Id.* The majority abused its discretion by failing to do so here.

The majority did not find claim 1 indefinite (*see* Dec., 9-12), but that only makes it more imperative to determine what the “having” limitation means to analyze the prior art. The Petition expressly asserted in the “Claim Interpretation” section that “[i]f the claims are not indefinite, it is because the claimed ‘USB hub’ (shown in blue below in Fig. 4 of the ’899 patent) is deemed to ‘ha[ve]’ a plurality downstream consumer facing USB ports (circled in red), even though the ports are not actually part of the ‘USB hub.’” Pet., 25-27. That the Claim Interpretation expressly identified an ’899 embodiment that must be within the scope of non-indefinite claims contradicts any notion that Petitioner did not support the agreed-

upon construction. And Petitioner asserted prior art disclosing this exact configuration, namely, a USB hub interconnected to a plurality of consumer facing USB ports (as shown below at left). *See id.*, 54-56.



Chang (EX1014), Fig. 3 (Pet., 55)



'899 patent, Fig. 4 (Pet., 26)

Not only did Petitioner assert the “having” limitation covers downstream consumer-facing USB ports, but ***PO expressly agreed***. POPR, 19; *see generally* BACKGROUND, §D. Thus, it would have been easy for the majority to apply an agreed upon construction. And, if the majority believed some other construction was appropriate, it must say/explain what it is. To be clear, the majority’s error was that it did not construe the claim to the extent necessary to decide obviousness (*i.e.*, whether the “having” limitation covered downstream consumer ports). As the dissent recognized, Petitioner never advocated that the Board define the outer bounds of the claim, only whether the claimed “***USB hub having a plurality of USB ports***” read on the preferred embodiment of ’899 patent Fig. 4. Dec., 21.

In summary, the majority abused its discretion by failing to construe the

claim to the extent necessary to analyze the prior art. The Director should vacate and remand with instructions to evaluate whether claim 1 encompasses a USB hub interconnected to downstream USB ports, which is precisely what Petitioner points to in the prior art. *See Intel*, 21 F.4th at 812-814 (“We hold that the Board’s conclusion was error and that a remand is required, because ... [t]he Board did not itself conclude that the prior-art analysis task was impossible”); *PLR Worldwide Sales Ltd. v. Flip Phone Games Inc.*, IPR2024-00133, Paper 12 (Director Order), 6 (PTAB Aug. 22, 2024) (“The Board shall issue a new decision on institution resolving the claim construction [by applying *Phillips*]”).

B. The Majority Abused Its Discretion By Failing to Perform a Prior Art Analysis

Having found ’899 patent claim 1 not indefinite, the majority abused its discretion by failing to perform any prior art analysis. This is true regardless of whether the majority performed an express/formal claim construction. The majority opinion’s one-page section titled “The Petition Fails To Show The Cited Art Discloses All Elements of Claim 1 As Recited” ***does not even cite—let alone discuss or analyze—the prior art.*** Dec., 11-12. Nevertheless, the majority concludes “the Petition fails to provide a showing that the cited art teaches or suggests [the ‘having’ limitation].” *Id.* The majority ignores the entirety of the Petition’s prior art analysis at pp. 53-56 addressing this limitation.

The sole basis for the majority’s conclusion was that “Petitioner does not

contend that the plain and ordinary meaning of ‘having’ as recited in claim 1 is either ‘interconnected to’ or ‘possessing.’” Dec., 11-12. That is both incorrect and misses the point. Petitioner stated “[i]f the claims are not indefinite, it is because the claimed ‘USB hub’ [] is deemed to ‘ha[ve]’ a plurality of downstream consumer facing USB ports [], even though the ports are not actually part of the ‘USB hub.’” Pet., 26. And ***PO agreed***: “[A] POSITA would understand that the plurality of USB ports the hub ‘has’ must include downstream ports.” POPR, 19.

PO itself used the terms “interconnected to” and “possessing” to describe the relationship between the claimed “*USB hub*” and “*plurality of USB ports*,” so Petitioner did the same for “ease of analysis.” Pet., 26-27. The fact that Petitioner used PO’s own words (*viz.*, “interconnected to”) for readability and understanding in the analysis, does not change Petitioner’s argument that the only thing which matters is that “downstream consumer ports satisfy the claim [limitation].” *Id.*, 27.

This is not a proper basis for refusing to analyze the prior art. Indeed, Petitioner expressly stated that “[r]egardless of the phrasing, Aptiv’s position is that downstream consumer ports satisfy the claim and render it not indefinite. Petitioner demonstrates unpatentability of the Challenged Claims under this construction.” Pet., 27. And the Petition shows exactly that at pp. 53-56. Even had the majority concluded claim 1 was indefinite, Federal Circuit precedent would require the Board to determine if a prior art analysis was possible and, if so,

to perform the analysis. *Intel*, 21 F.4th at 812-14. The *Intel* logic applies more forcefully here, where the claim was found not indefinite.

The majority's failure to fulfill its duty is all the more glaring given that the POPR never distinguished the prior art based on the "having" limitation. In summary, having found the claim not indefinite, the majority was obligated to assess the prior art and abused its discretion by failing to do so.

C. The Majority Erred by Overlooking/Misapprehending Key Arguments

The majority misapprehended that the Petition was contingent on an express "interconnected to" construction. It was not—the contingency was that the claim be found not indefinite, which could only be the case if the "having" limitation covered Fig. 4. *See* Pet., 25-27; BACKGROUND, §C. The majority overlooked Petitioner's intrinsic evidence and PO's admissions that "having" covers a hub connected to consumer ports (as in the '899 patent). POPR, 19; EX2001, ¶¶96-99.

D. Additional Considerations Favor Director Review

This is a textbook case of a petitioner using the IPR process just as Congress intended—as a substitute for district court litigation. Petitioner challenged all asserted patents/claims, and submitted a *Sotera* stipulation with each petition. The district court stayed the case upon institution of the first four petitions on identical prior art. Not only is the majority's failure to perform a substantive analysis an abuse of discretion, it is contrary to the purpose of the IPR regime.

Respectfully submitted,

Dated: September 17, 2024

/Travis Jensen/

Travis Jensen, Reg. No. 60,087

CERTIFICATE OF SERVICE

The undersigned certifies that on September 17, 2024, a copy of the foregoing was served in its entirety via electronic mail, upon the following attorneys of record for the Patent Owner:

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