

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
Petitioner

v.

WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,
Patent Owner

Case IPR2025-01069
U.S. Patent No. 10,313,077

AUTHORIZED RESPONSE TO DIRECTOR REVIEW REQUEST

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I. Introduction

Patent Owner Wilus's Request for Director Review ("the Request") of both the Decision Referring Petitions to the Board ("the Referral Decision") (Paper 11) and the Decision Granting Institution of *Inter Partes* Review ("the Institution Decision") (Paper 16) fails to establish any abuse of discretion, important issues of law or policy, erroneous findings of material fact, or erroneous conclusions of law and should thus be denied. Director Review Process, Section 2.B, *available at* <https://www.uspto.gov/patents/ptab/decisions/director-review-process>.

Regarding discretionary denial, Wilus has not shown that the Chief Administrative Patent Judge's decision to refer the Petition to the Board was made in error. It is undisputed that the '077 Patent is one among twelve patents spanning eight different families that Wilus has asserted against Petitioner. Paper 11, 3. The '077 Patent is thus involved in a complex and diverse district court proceeding. The Request also fails to refute the Chief Administrative Patent Judge's finding that material errors were made during examination of Wilus's patents, or that reliance on those examination errors to refer the Petition to the Board was itself in error. Paper 11, 3. Finally, Wilus has little to no settled expectations in the '077 Patent.

Wilus's attempt to leverage preliminary claim construction submissions in the district court proceeding to reverse institution also should be dismissed because, as the Board noted in its Institution Decision, "the record does not show inconsistent

claim construction positions that warrant denial under PTAB precedent.” ID, 7. The Board was correct that Petitioner is not taking any inconsistent positions in both proceedings. Wilus’s Request does not demonstrate any error in the Board’s determination in this regard. Indeed, Petitioner maintains in both forums that all claim terms should be given their plain and ordinary meaning.

II. Discretionary Denial Considerations Favored Referral

A. The Challenged Patents are involved in a complex and diverse litigation proceeding

Wilus’s argument that “the IPRs Samsung has brought against Wilus do not present [a] ‘diverse range of subject matter’” is flawed for several reasons.

As a preliminary matter, Wilus’s framing of “the IPRs Samsung has brought against Wilus” mischaracterizes the analysis in *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00217, Paper 9 at 2-3 (Jun. 13, 2025) and in *Shenzhen Tuozhu Tech. Co., Ltd. v. Stratasys, Inc.*, IPR2025-00438, Paper 10 (Jul. 17, 2025). Rather than focusing on the IPR challenge, *Tesla* cited the “**complex and diverse litigation proceeding**.” *Tesla*, 2-3 (emphasis added). Similarly, *Shenzhen Tuozhu* cited the “large number and vast scope of the patents asserted in the **district court litigation**” as “weigh[ing] against discretionary denial, as the Board is better suited to review a large number of patents involving diverse subject matter.” *Shenzhen*, 3 (emphasis added) (citing *Tesla*, 2-3). Wilus’s challenge is additionally limited only to whether the patents-at-issue are diverse. Notably, Wilus does not challenge the complexity

of addressing *twelve* patents in district court litigation.

Nonetheless, as explained in Petitioner’s Opposition to Patent Owner’s Request for Discretionary Denial, the patents in the co-pending litigation involve a diverse range of subject matter, where “the ’077 patent is but one of twelve patents spanning eight different families that Wilus has asserted against Samsung in District Court.” Paper 9, 6. This is no different than the scenarios in *Tesla* and in *Shenzhen*. Namely, the patents-in-suit in *Tesla* involved “eleven patents spanning nine different families that involve a diverse range of subject matter.” *Tesla*, 3. Similarly, the patents-in-suit in *Shenzhen* involved “nine different patents spanning six families that involve a diverse range of subject matter.” *Shenzhen*, 3.

Wilus’s attempts to distinguish the present case from *Tesla* and from *Shenzhen* are unavailing. For instance, with respect to *Shenzhen*, while all patents were generally directed to 3D printing, they cover diverse aspects of that technology. *Shenzhen*, Paper 9 at 7-9 (Jul. 9, 2025). Similarly, here, while all patents-in-suit relate generally to wireless technologies, they, too, cover diverse aspects of wireless technologies, ranging, for example, from “enhanced distributed channel access prioritization” to “legacy and modern device coexistence via physical layer frame designs” to signaling “information other than information on the duration of [a] non-legacy physical layer frame” as in the case of the ’077 Patent. Paper 9, 7-8. Wilus’s characterization

of the technology as simply relating to “features of the 802.11ax standard that improve efficiency and performance of wireless communications in congested spectrum” is an overgeneralization. *See* Request, 4.

Wilus’s argument that the relatedness of the subject matter can be seen from the overlapping prior art (“including the various versions of the 802.11 standards that are relied upon as purported prior art”) is incorrect. First, petitions for only three of the twelve patents-in-suit include grounds that rely on IEEE 802.11 standards documents as prior art. Wilus’s argument further ignores the diverse aspects of wireless technology covered in the various IEEE 802.11 standards documents, including the physical layer responsible for the actual transmission of data, and the medium access control layer that controls access to a shared wireless medium and handles functions such as authentication and frame control. Wilus further alleges that “[t]he fact that all eight of these patents are alleged to be rendered obvious by versions of the 802.11ax standard or patents that are directed to improvements that very same standard refutes any argument that the situation here is comparable to those in *Tesla* or *Shenzhen*.” Request, 5. However, since all patents-in-suit relate, *generally*, to wireless standards, it is unsurprising that the wireless standards themselves—and patents directed to aspects of those standards—would form the basis for invalidity grounds. But again, Wilus ignores the nature of wireless technology, where standards documents are often several hundred pages long and cover diverse topics.

Finally, Wilus alleges in its Request that the discretionary denial factors were “decided in error, based upon misleading representations by Samsung that Wilus was not afforded an opportunity to rebut.” Request, 3. Notably, however, Wilus made no such request of the Director to rebut any alleged “misleading representations,” despite the guidance on the bifurcated process at the time permitting parties to request additional briefing on discretionary issues. FAQs for Interim Process for PTAB Workload Management, Question 17, *available at* <https://www.uspto.gov/patents/ptab/faqs/interim-processes-workload-management>. Indeed, Wilus could have been afforded such an opportunity to rebut any of Petitioner’s arguments in a timely manner pre-institution if it had simply asked to do so. It did not.

B. The Referral Decision properly found the Examiner had committed material error

Wilus states that the decision “did not identify any such [material] errors in the prosecution of the ’077 patent.” Request, 3. This misrepresents the decision’s statements. The decision stated, “Petitioner provides persuasive evidence that the Office erred in a manner material to the patentability of the challenged claims in at least some of the challenged patents.” Paper 11, 3. The decision then briefly provides examples from IPR2025-00933 and IPR2025-00934. Paper 11, 3-4. The omission of examples or details of each of the eight IPRs addressed in the decision does not mean that the decision found no error in the ’077 patent. Instead, the decision explicitly states that the Office erred in “some” of the challenged patents without mentioning

whether any of the IPRs, much less the IPR addressing the '077 patent, failed to show material error. Paper 11, 2.

As explained in Petitioner's Opposition (Paper 9, 17-25), the Examiner erred in multiple ways during examination of the '077 patent.

1. *The Examiner Erred in Allowing the Application for the '077 Patent Without Issuing Even a Single Prior Art Rejection, Thereby Overlooking Highly Relevant Prior Art*

To start, the Examiner made *no prior art rejections* during original examination before deciding to allow the application for the '077 Patent. Allowing the application at this early juncture of examination was a mistake because the Examiner had not even considered many of the most relevant prior art references to the '077 Patent by the time of the allowance, including the prior art that forms the basis of Ground 1A of the Petition (i.e., Bharadwaj (SAMSUNG-1006) and Yu (SAMSUNG-1019)).

The Examiner offered the following reasons for allowance:

Allowable Subject Matter

4. Claims 1-14 are allowed over the prior art of record. The following is an examiner's statement of reasons for allowance: A search of the field of invention fails to provide any prior art that discloses features such as "...obtain information other than information on the duration of the non-legacy physical layer frame through a remaining value obtained by dividing the length information by a data size transmittable by a symbol of a legacy physical layer frame, wherein the data size transmittable by a symbol of the legacy physical layer frame is 3 octets when a data rate of the legacy physical layer frame is 6 Mbps, and determine the number of symbols of data of the non-legacy physical layer frame according to a following equation,

$$N_{SYM} = \left\lfloor \left(\frac{L_LENGTH + m + 3}{3} \times 4 - T_{HE_PREMABLE} \right) / T_{SYM} \right\rfloor - b_{PE_Disambiguity} \dots$$

..."

SAMSUNG-1002, 259

These features correlate to claim elements 1[d]/8[d] and 1[e]/8[e] in the Petition. The Petition presents a thorough and technically accurate analysis of these features of the claims using Bharadwaj alone or in combination with Yu, showing with specificity how each claim element is rendered obvious. Pet., 45-59. The Petition's mapping of these features highlights that the Examiner's allowance of the claims was based on an incomplete consideration of the prior art landscape. The Examiner allowed the claims without considering Bharadwaj or Yu (or any equivalent disclosure), both of which clearly teach the subject matter the Examiner deemed allowable. Had Bharadwaj or Yu been found and applied, the claims would have been rejected. The failure to identify and apply Bharadwaj or Yu, which presents commonly known equations for L_LENGTH and Nsym, represented a material error in prosecution, as the allowance of the claims was not based on a complete or accurate consideration of the most relevant prior art.

2. *The Examiner Failed to Conduct an Adequate Search That Would Have Led to Bharadwaj, Yu, and Other Material Prior Art References*

The Examiner further erred in conducting a deficient search that failed to identify some of the most pertinent prior art references including Bharadwaj, Yu, Lee (SAMSUNG-1018), and relevant IEEE standards-based art. Notably, only eight

prior art references are cited on the face of the '077 Patent as references the Examiner considered. SAMSUNG-1001, Cover. However, the Examiner never identified or considered large swaths of prior art that were clearly material to patentability, nor did Wilus cite them during prosecution. The Examiner's failure to cite any IEEE standards-based art indicates a failure of the Examiner to appreciate the context of the claimed technology and the fact that most aspects of the equation cited in the reasons for allowance were already known in IEEE standards documents before the '077 Patent. The '077 Patent itself repeatedly refers to the standards (e.g., IEEE 802.11ac, IEEE 802.11ax,), and yet, no IEEE document was cited. *See, e.g., SAMSUNG-1001, 11:58-14:34.* Further, Wilus accuses Samsung of infringement based on adoption of the Wi-Fi 6 standard, and yet, Wilus brought none of the relevant IEEE art to the Office's attention. *See SAMSUNG-1004.*

A proper search would have at least led the Examiner to the Bharadwaj and Yu references cited in the Petition. This is particularly true given the generic and well-known nature of what Bharadwaj and Yu contribute to the teachings. Specifically, Bharadwaj (through incorporation of Bharadwaj-Prov059) explicitly discloses examples for calculating L_{LENGTH} and N_{sym} using the following equations,

$$L_{LENGTH} = \left\lceil \frac{TXTIME-20}{4} \right\rceil \times 3 - 3 + m \text{ where } m = 1, 2$$

$$N_{sym} = \left\lfloor \frac{\left\lceil \frac{L_{LENGTH} - m + 3}{3} \right\rceil \times 4 - T_{HE_PREAMBLE}}{T_{SYM}} \right\rfloor - SE_{disambiguation_bit}$$

SAMSUNG-1007, [0051], [0048], [0056]-[0057]. Bharadwaj-Prov059 also discloses that the value of m is merely used to “ensure that L_{LENGTH} is not exactly a multiple of 3 and is therefore used to distinguish between IEEE 802.11ax and IEEE 802.11ac transmissions (e.g., auto-detections).” SAMSUNG-1007, [0051]-[0052]. Further, Yu (through incorporation of Yu-Prov428) discloses the following Length equation that *subtracts* a value of $M=0, 1, \text{ or } 2$ depending on the signaling state:

$$\text{Length} = \frac{TXTIME - 20}{4} \times 3 - 3 - M, 0 \leq M \leq 2$$

SAMSUNG-1020, 16; SAMSUNG-1019, [0232]. Yu-Prov428 explains that this “ L_{LENGTH} can imply three different states with the value of M without changing the operation of the legacy receiver” because “the legacy receiver [will] identify the same length (the same packet duration) because one OFDM symbol with the lowest rate includes 3 bytes data.” *Id.* The L_{LENGTH} and N_{sym} equations above are among the known equations taught and known in the art at the time of the ’077 Patent filing.

As illustrated below in an example search by the Examiner, the search record reveals that the Examiner too narrowly searched for the claim language without considering and searching for other terms related to the same concept or even the concepts in general e.g., “length information.”

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	43	legacy near signal\$4 near field and length with (nonlegacy or non near legacy)	US-PGPUB; USPAT	OR	ON	2019/01/07 06:00
L9	284	(l near sig or legacy near signal\$4 near field) with length same (he or high near efficiency)	US-PGPUB; USPAT	OR	ON	2019/01/07 06:08
L12	13	physical near layer near frame same length same (he or high near efficiency or nonlegacy or non near legacy)	US-PGPUB; USPAT	OR	ON	2019/01/07 06:11
L13	3293	(co near exist\$6 or coexist\$6) with legacy	US-PGPUB; USPAT	OR	ON	2019/01/07 06:12
L14	787	13 and (he or high near efficiency or nonlegacy or non near legacy)	US-PGPUB; USPAT	OR	ON	2019/01/07 06:12

SAMSUNG-1002, 269

As discussed in detail in Petitioner’s Opposition, the Examiner’s search strategy was inadequate and resulted in material error that led to allowance. Paper 9, 23-25.

Finally, the cited Cooperative Patent Classification (CPC) codes the Examiner searched did not cover the Bharadwaj or Yu reference. The Examiner’s prior art search focused on certain codes (SAMSUNG-1002, 269-270) which would not have resulted in the Bharadwaj or Yu reference because the Office had not classified Bharadwaj or Yu with those codes (SAMSUNG-1006, (52); SAMSUNG-1019, (52)). While the Examiner’s interference search included H04W84/12, which may have included the Bharadwaj and Yu references, the number of results, e.g., 239 and 433, was too vast, demonstrating that the search was too broad, decreasing the chances of the Examiner finding Bharadwaj, Yu, or a similar reference. Instead, focusing on the

length information would have likely yielded better results. The lack of proper searching led to the lack of rejections of the features that led to allowance.

Because the Examiner overlooked highly relevant aspects of Bharadwaj's and Yu's disclosures and failed to complete straight-forward search strategies that would have led to Bharadwaj and Yu, the Examiner erred in issuing the '077 Patent.

C. Wilus has little to no settled expectations in the '077 Patent

As Petitioner noted in its Opposition to Patent Owner's Request for Discretionary Denial, the '077 Patent, which issued on June 4, 2019, has been in force for only six years and so Wilus "has not developed strong expectations that favor discretionary denial." Paper 9, 10 (citing *Cambridge Indus.*, Paper 12 at 2-3 (June 26, 2025) (finding that patents issued in 2019 and 2020 have "not been in force for a significant period of time" and thus Patent Owner's settled expectations "[did] not favor discretionary denial"); *see also Tanklogix v. Sitepro*, IPR2025-00650, Paper 10 at 2 (PTAB Jul. 31, 2025) ("*Tanklogix*") ("...the patents challenged in IPR2025-00650... have not been in force for a significant amount of time (issued in **2019**, ...). Accordingly, Patent Owner has not developed strong settled expectations that favor discretionary denial."); *Berkshire Hathaway Energy Company, et al. v. Birchtech Corp.* ("*Berkshire Hathaway*"), IPR2025-00274, Paper 23, at 3 (PTAB July 2, 2025) (referring to the Board where Patent Owner had not developed strong settled expectations for the challenged patents that issued in **2019** and 2020); *Webgroup Czech*

Republic , A.S. et al., v. Dish Technologies LLC., IPR2025-00467, Paper 14 at 2 (PTAB July 16, 2025) (“...the challenged patents have not been in force for a significant period of time (**2019**, 2021, 2022, and 2023), such that the Patent Owner has not developed strong settled expectations.”)).

More, Wilus is currently pursuing a continuation application in this family, where Wilus’s actions and statements while prosecuting the continuation application could affect the scope of the ’077 Patent, for instance. The public would benefit from *inter partes* review of the ’077 Patent since a substantive review of the petition’s grounds would help guide examination of the pending and future continuations and help ensure the examiners reach the correct patentability decisions in current and future Wilus applications. Paper 9, 11.

Finally, discretionary denial of this Petition based on the ’077 Patent’s age alone risks a highly inefficient result that would separate this challenge from those against Wilus’s younger patents where institution has already been granted.¹ *Activision Blizzard, Inc. v. Milestone Entertainment, LLC*, IPR2025-00708, Paper 11

¹ IPR2025-00934; IPR2025-00935; IPR2025-00936; IPR2025-01043; IPR2025-01044; IPR2025-01110; IPR2025-01111. Additionally, IPR2025-01164 and IPR2025-01165 are pending institution decisions following the Director’s decision

at 2-3 (Aug. 14, 2025) (referring petition on 12-year old patent together with petitions on 3-year old patents because “it is an efficient use of Board resources to address the [12-year old patent] as well”); *Padagis US LLC v. Neurelis Inc.*, IPR2025-00464, Paper 12 at 3-4 (“efficient use of Board resources to address the related [11-year old] patent as well”).

III. Patent Owner’s Arguments Concerning *Revvo* and *Tesla-340*² Are Moot Because Petitioner’s Claim Construction Positions Are Not Inconsistent

Any arguments concerning inconsistent claim construction positions are moot. The district court litigation and PTAB records are clear. Petitioner contends in both forums that no constructions are necessary—consistent with Wilus’s position. Wilus’s allegations that Petitioner offered inconsistent claim construction positions were based only on Samsung’s *preliminary* identification of potential terms for claim construction in the district court in an email from August 27, 2025 (Ex. 2013), and the parties’ Joint Claim Construction Statement (Sept. 25, 2025) (Ex. 2018). Request, 5 (citing Ex. 2018, 3); Paper 14, 1 (citing Ex. 2018, 3); Paper 10, 3 (citing Ex. 2013). On November 18, 2025, in its Responsive Claim Construction Brief,

referring these petitions for merits review. The Board also recently granted Samsung’s request for rehearing of the decision denying institution in IPR2025-00933.

² IPR2025-00340.

Samsung offered its updated claim construction positions, dropping all terms alleged to be indefinite in the district court proceeding. As such, as the Board noted in its Institution Decision, Petitioner applies the plain and ordinary meaning standard to all terms in both the IPR and the parallel district court case. *See* ID, 7. Petitioner does not assert indefiniteness for any term and no inconsistency exists. Wilus has demonstrated no error in the Board’s recognition of this reality.

Notably, in *Revvo Technologies, Inc. v. Cerebrum Sensor Technologies, Inc.*, the Director stated that “[t]he Board’s claim construction rules are designed to ensure that the Board correctly construes claims and to minimize inconsistency in claim construction between forums.” IPR2025-00632, Paper 20 at 4-5 (PTAB Nov. 3, 2025) (precedential); *see also* *Tesla, Inc. v. Intellectual Ventures II LLC* (“*Tesla-340*”), IPR2025-00340, Paper 18 at 4-5 (PTAB Nov. 5, 2025) (informative). By dropping the ’077 Patent terms previously identified as indefinite, Petitioner has eliminated any risk of “inconsistency in claim construction between the forums” and thus “further[s] ... the Office’s goal of ‘providing greater predictability and certainty in the patent system.’” *See* *Revvo*, Paper 20 at 4; *Tesla-340*, Paper 18 at 4 (quoting *Revvo* at 4-5). The Director’s decisions in *Revvo* and *Tesla-340* are simply not relevant here because Petitioner’s claim construction positions in both proceedings are not inconsistent and do not include indefiniteness for any claim terms.

Wilus’s allegation that it was prejudiced by allotting pages of its Opening

Claim Construction Brief in district court to addressing indefiniteness of the terms in the '077 Patent is also unfounded. *See* Request, 6. Wilus was afforded an ample thirty pages to address claim construction in its Opening Brief. Samsung granted seven additional pages to Wilus for its Reply Brief, so Wilus had seventeen pages for its Reply Brief—*i.e.*, four pages more than Samsung's Responsive Brief—to address just two disputed terms across the asserted patents. Wilus has not been prejudiced and cannot credibly contend otherwise. Samsung has merely narrowed issues in the district court proceeding—an eventual requirement in nearly all multi-patent district court actions. Wilus's allegations of gamesmanship or its suspicion regarding the timing of Petitioner's claim construction filings are of no moment. Rather, as the Board correctly concluded, “the record does not show inconsistent claim construction positions that warrant denial under PTAB precedent.” ID, 7 (citing *Revvo* at 5).

Finally, while Wilus faults Samsung for exploring preliminary indefiniteness positions, Wilus has not established any inconsistency with these positions. Samsung's early identification of potentially indefinite terms was made while Samsung was investigating the outer bounds of the claims before Samsung ultimately determined not to pursue indefiniteness positions. *Tesla-340*, Paper 18 at 3-4.

IV. Conclusion

Patent Owner's Request for Director Review of the Referral Decision and the Institution Decision should be denied and this proceeding should proceed.

Respectfully submitted,

Dated January 6, 2026

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4) and 42.205(b), the undersigned certifies that on January 6, 2026, a complete and entire copy of this Authorized Response to Director Review Request was provided by email to the Patent Owner by serving the correspondence email address of record as follows:

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