UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner

v.

ADVANCED CODING TECHNOLOGIES LLC,
Patent Owner

Case IPR2025-00984
Patent 10,218,995

PETITIONER'S OPPOSITION TO PATENT OWNER'S REQUEST FOR DISCRETIONARY DENIAL OF INSTITUTION

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APPLE-1003	Declaration and Curriculum Vitae of David B. Lett
APPLE-1004	Complaint, *Advanced Coding Technologies LLC v. Apple Inc.*, 2-24-cv-00572-JRG, E.D. Tex., filed Jul. 22, 2024
APPLE-1005	English Translation of Japanese Patent Publication No. 2007316161 A with Translation Certificate ("Phek")
APPLE-1006	Segall et al., *Spatial Scalability Within the H.264/AVC Scalable Video Coding Extension*; IEEE Transactions on Circuits & Systems for Video Tech., Vol. 17, No. 9, September 2007 ("Segall")
APPLE-1007	Martins et al., *A Unified Approach to Restoration, Deinterlacing and Resolution Enhancement in Decoding MPEG-2 Video*, IEEE Transactions on Circuits & Systems for Video Tech., Vol. 12, No. 9, September 2002 ("Martins")
APPLE-1008	U.S. Patent Publication No.2008/0137753 ("He")
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APPLE-1010	Schwarz et al., *Overview of the Scalable Video Coding Extension of the H.264/AVC Standard*, IEEE Transactions on Circuits & Systems for Video Tech., Vol. 17, No. 9, September 2007 ("Schwarz")
APPLE-1011	U.S. Patent Publication No. 2009/0154567 ("Lei")
APPLE-1012	Park et al., *Super-Resolution Image Reconstruction: A Technical Overview*, IEEE Signal Processing Magazine, pp. 21-36, May 2003 ("Park")
APPLE-1013	English Machine Translation of Japanese Patent Publication No. 2008053848 ("Hatanaka")

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APPLE-1023	Bier, *Introduction to Video Compression*, Berkeley Design Tech., Inc. (October 2005), *available at* https://www.bdti.com/MyBDTI/pubs/20051024_GSPx05_Video_Intro.pdf (retrieved Dec. 30, 2023) ("Bier")
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APPLE-1037	Reader, Intraframe and Interframe Adaptive Transform Coding, Efficient Transmission of Pictorial Information, SPIE v.66, 108 (1975)
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APPLE-1041	H.264 / MPEG-4 Part 10 White Paper, January 31, 2003 (downloaded from https://github.com/yistLin/H264-Encoder/blob/1cdaf090b63642932ed726b102ed2cf80908edbb/doc/H.264%20%3A%20MPEG-4%20Part%2010%20White%20Paper.pdf on Jan. 5, 2024)
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APPLE-1045	Decision Instituting *Inter Partes* Review (Paper 9), IPR2024-00372, *Samsung Electronics. Co., Ltd. v. Advanced Coding Techs., LLC* (July 18, 2024)
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APPLE-1049	Michal Irani et al., *Super resolution from image sequences*, [1990] Proceedings. 10th International Conference on Pattern Recognition, Atlantic City, NJ, USA, 1990, pp. 115-120 vol.2, doi: 10.1109/ICPR.1990.119340 ("Irani")
APPLE-1050	U.S. Patent Publication No. 2007/0160133 ("Bao")
APPLE-1051	U.S. Patent Publication No. 2004/0170330 ("Fogg")
APPLE-1052	U.S. Patent Publication No. 2006/0126952 ("Suzuki952")
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APPLE-1054	U.S. Patent Publication No. 2005/0019000 ("Lim")
APPLE-1055	U.S. Patent Publication No. 2004/0156561 ("Yu-Chuan")
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APPLE-1077	'995 Patent Assignment Reel/frame 059497/0108 (Executed February 28, 2022)

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APPLE-1079	Order Granting Stay in *Maxeon Solar PTE. LTD. V. Hanwha Solutions Corp. et al*., case no. 2:24-CV-00262-JRG (EDTX)
APPLE-1080	Order Granting Stay in *Cellspin Soft, Inc. v. Bytedance Ltd., et al.,* case no. 2:23-CV-00496-JRG-RSP (EDTX)
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APPLE-1092	ACT Addresses in EDTX, https://advancedcodingtechnologies.com/about (last visited September 4, 2025)

I. INTRODUCTION

Petitioner Apple Inc. ("Apple") opposes Patent Owner Advanced Coding Technologies LLC's (hereinafter, "ACT" or "Patent Owner") Request for Discretionary Denial (Paper 6, "Request"). ACT's Request focuses largely on just two discretionary issues: (a) settled expectations, and (b) *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB March 20, 2020) (precedential) ("*Fintiv*"). But under all relevant considerations, denial of institution is unwarranted and inappropriate. Additionally, factors that ACT did not address further demonstrate why *inter partes* review would constitute an efficient and otherwise appropriate use of Office resources. Indeed, Apple brings a timely challenge to six patents covering a diverse range of technologies ranging from media servers to video compression and vocoders that ACT only purchased in 2022 as part of a portfolio that it immediately began asserting against the industry. But the patents were issued in error and Apple's challenges will require the trier-of-fact to make detailed factual findings with implications not just for Apple, but a majority of the U.S. consumer electronics market.

Significantly, as discussed in further detail below, the Examiner committed several material errors in allowing the '995 Patent at issue in this proceeding over the prior art applied during prosecution. For example, in the final Office Action mailed before allowance, the Examiner applied Phek (APPLE-1005), Holcomb

(APPLE-1024), and Barkley (APPLE-1025) to reject most of the then-pending claims. The claim that would later issue as challenged independent claim 2 of the '995 Patent, however, was allowed following the Applicant's response to a final Office Action on the Examiner's stated understanding that "the prior art on record" failed to disclose a second encoder/decoder element that contained two limitations amended into the claims in the Applicant's response: (1) selection of a first or second set of reference pictures based on reference picture selection information and (2) a target picture and reference pictures having "the same value in spatial resolution." *Infra*, §II.A. But the Examiner was mistaken. Holcomb unambiguously discloses both features, while Phek discloses at least the second. If Holcomb's and Phek's disclosures had been properly recognized, the claims would not have been allowed, nor should they have been. Regardless of any other factors, referral is warranted to finally apply scrutiny to the '995 Patent and rectify the Examiner's consequential errors.

The appropriateness of referral is further underscored by the Board's prior institution of an earlier-filed petition by Samsung on the *same* challenged claims of the '995 Patent based on the *same* prior art (Phek, Segall, Martins, and He) that Apple applies in the present Petition. *See* APPLE-1045 (institution decision in *Samsung Electronics Co., Ltd. v. Advanced Coding Technologies, LLC*, IPR2024-

00372).[1] Through institution of Samsung's Petition, the Office already found a reasonable likelihood that the Challenged Claims are unpatentable over Phek/Segall/Martins/He. *Id.* Apple's Petition, which is the first filed on the '995 Patent since Samsung's settlement, provides the perfect vehicle for the Office to rectify the Examiner's errors based on prior art that the Office has already endorsed against these claims. Referral (and ultimately institution) would provide a much-needed check on ACT's efforts to capitalize on the errors that led to issuance of the '995 Patent. Indeed, ACT has sued multiple defendants on the '995 Patent, and even launched its suit against Apple just four days *after* institution of Samsung's petition, when it knew that the claims were likely unpatentable. *See* APPLE-1004; APPLE-1045; *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00217, Paper 9, 2-3 (Stewart June 13, 2025) ("*Tesla*") ("Other considerations, however, counsel against discretionary denial. For example, Petitioner … asserts that the merits are strong because the Board previously determined there was a reasonable likelihood that similar claims of an ancestor patent were unpatentable in three separate proceedings with respect to some of the challenged patents in these proceedings.").

[1] IPR2024-00372 terminated pursuant to settlement shortly after institution. APPLE-1085. Apple was not a party to the -00372 proceeding.

As to settled expectations, ACT has none. The '995 Patent issued in 2019 just six years before Apple filed its Petition in this proceeding, which is simply not enough time for any expectations of a patent owner to become settled. *Infra*, § III.A (citing multiple referral decisions finding owners of 2019 patents to lack settled expectations). Moreover, ACT only just purchased the '995 Patent from JVC Kenwood in February 2022, less than four years after its issuance. APPLE-1077. ACT immediately began its patent assault later that same year when it sued Samsung and LG on multiple of the purchased patents including the '995 Patent. APPLE-1083; APPLE-1036. ACT delayed its assertion of the '995 Patent against Apple until late July 2024. By that time, however, as noted above, Samsung's IPR on the '995 Patent had recently instituted. APPLE-1045. The validity of the '995 claims was thus, at best, unsettled by the time Samsung's IPR instituted and ACT brought its suit against Apple. On the other hand, Apple enjoys settled expectations because the claimed subject matter is directed to conventional video coding techniques that were in widespread use long before the priority date of the '995 Patent. Apple should also enjoy the ability to bring a meritorious IPR challenge to patents like the '995 Patent that should never have issued in the first place, particularly an IPR challenge that the PTAB had already considered worthy of institution.

The Examiner's errors, the strength of the grounds, the settled expectations

of the parties, and an absence of changes to the legal landscape all support referral of the '995 Patent Petition. Apple's broad stipulation—even more sweeping than a *Sotera* stipulation—further eliminates any potential overlap between the proceedings relating to the claims that ACT may assert at trial. *See Tesla*, IPR2025-00217, Paper 10 at 2 ("Other considerations, however, counsel against discretionary denial. For example, Petitioner has filed a broad stipulation[.]"); APPLE-1073. In the event of institution, Apple's stipulation would preclude it from relying in the Texas litigation on combinations of the prior art asserted in this proceeding with unpublished system prior art (or any other type of prior art). APPLE-1073; *see Motorola Solutions, Inc. v. Stellar, LLC*, IPR2024-01205, IPR2024-01206, IPR2024-01207 & IPR2024-01208, Paper 19 (Stewart March 28, 2025) ("*Motorola*").

In short, the nature and complexity of the parties' dispute is the exact kind that the IPR process was meant to address—a frivolous litigation brought by an assertion entity that played no part in the creation of the patents-in-suit, against an American innovator and economic driving force. Considering the material errors made during prosecution and the PTAB's prior endorsement of grounds based on the same prior art as that cited in Apple's Petition, the PTAB, through IPR, is best equipped to resolve the patentability issues raised in the Petition. For each of these reasons, and for those discussed in further detail below, Apple respectfully requests

that the ’995 Patent Petition be referred to a merits panel.

II. *INTER PARTES* REVIEW IS AN APPROPRIATE USE OF OFFICE RESOURCES

A. Material Error by the Office Warrants Referral

Material error during prosecution weighs heavily against discretionary denial. Indeed, when the Office has committed a material error in prosecution of a challenged patent, correction of such an error has been deemed to be of paramount importance, often overcoming a Patent Owner’s strong settled expectations in a challenged patent and even overcoming facts that otherwise would have resulted in a *Fintiv* denial. *See, e.g.*, *Microsoft Corp. v. Partec Cluster Competence Cent. GmbH*, IPR2025-00318, Paper 9, 3 (Stewart June 12, 2025) (“*Microsoft v. Partec*”); *Padagis US LLC v. Neurelis, Inc.*, IPR2025-00464, Paper 12, 3 (Stewart July 16, 2025); *Tesla, Inc. v. Charge Fusion Techs., LLC*, IPR2025-00152, Paper 11, 2 (Stewart June 12, 2025) (“Petitioner provides persuasive evidence that the Office erred in a manner material to the patentability of the challenged claims by overlooking the teachings of [a reference during prosecution].”); *Anthony Inc. v. ControlTec, Inc.*, IPR2025-00559, Paper 12, 2 (Stewart July 16, 2025) (“*Anthony*”) (referring to the panel and finding that petitioner’s showing of material error favored referring to panel for 17- and 18-year old patents); *USAA Federal Savings Bank v. PACid Technologies, LLC*, IPR2025-00697, Paper 9, 2-3 (Stewart August

14, 2025). Indeed, when "[p]etitioner appears to show a material error by the office," the Director has found that "it is an appropriate use of Office resources to review the potential error"—***even if the trial date in the copending litigation precedes the FWD date***. *Microsoft v. Partec*, IPR2025-00318, Paper 9, 3 (referring to the panel, despite a later trial date, because "Petitioner appears to show a material error by the Office and it is an appropriate use of Office resources to review the potential error"); *Taiwan Semiconductor Manufacturing Co. Ltd. v. Marlin Semiconductor Ltd.*, IPR2025-00847, Paper 11, 3-4 (Stewart September 3, 2025) (referring to the panel where petitioner had shown "a material error by the Office" despite earlier trial date and fifteen year old patent).

The Examiner's material errors during prosecution of the '995 Patent led directly to an undeserving allowance of the claims challenged in Apple's Petition. As described in further detail below, the claim limitations that formed the basis for allowance were expressly taught in the prior art before the Examiner—including the prior art Phek (APPLE-1005) and Holcomb (APPLE-1024) references that the Examiner had applied in the final rejections before allowance. If the Examiner had properly recognized some of the most pertinent disclosures in Phek and Holcomb, the claims would not have been allowed and the '995 Patent would not have issued. Accordingly, Office resources are appropriate and well justified to rectify the errors that led to allowance.

For context on the errors, consider the final Office Action dated May 23, 2018. In this Office Action, the Examiner rejected the pending claims of the '995 Patent's application as obvious over the combination of Phek[2] (APPLE-1005), Holcomb (APPLE-1024), and Barkley (APPLE-1025):

> 9. Claims 22, 23, 26, 28, 30, 31 and 33-34 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over **ONG CHIN PHEK et al.(Machine translation of JP 2007-316161 A)** (hereinafter Ong) in view of **Holcomb et al.(US 7,379,496 B2)**(hereinafter Holcomb), and in further view of **Barkley et al.(US 2008/0043832 A1)**(hereinafter Barkley).

APPLE-1002, 84 (highlighting added).

The Applicant responded to this final Office Action by amending the claims. *See* APPLE-1002, 58-79. The amendment to independent claim 23—corresponding to issued claim 2 of the '995 Patent (representative of the claims challenged in Apple's Petition)—focused on two limitations:

(1) the selection of a set of first or second reference pictures for use in video decoding "***based on reference picture selection information***," and

[2] The Petition also relies on Phek (APPLE-1005) in Grounds 1A-1B. The Examiner identifies Phek as the "Ong" reference, but "Phek" and "Ong" nonetheless refer to the same prior-art publication.

(2) "wherein the set of decoding targets, the set of reference pictures, and the set of second reference pictures ***have the same value in spatial resolution***."

APPLE-1002, 65-66.

a second decoder configured to acquire the second sequence of encoded bits obtained with a standard resolution at the demultiplexer as a set of decoding targets, the sequence of decoded pictures created with the standard resolution at the first decoder as a set of first reference pictures, and the sequence of super-resolution decoded pictures created with the standard resolution at the first resolution converter as a set of second reference pictures, and select one of ← Limitation 1 the set of first reference pictures and the set of second reference pictures based on reference picture selection information to implement ~~thereon~~ a combination of processes for a prescribed prediction and a prescribed second decoding being a decoding with an extension of the standard resolution, to create a sequence of super-resolution pictures decoded with the standard ~~resolution~~ resolution based on the set of decoding targets and the set of selected reference pictures; and

a second resolution converter configured to acquire the sequence of decoded pictures with the standard resolution from the first decoder to work on the sequence of decoded pictures to implement an interpolation of pixels with the second enlargement to create a sequence of enlarged decoded pictures with a high resolution as a second resolution higher than the standard resolution,

wherein the set of decoding targets, the set of first reference pictures, and the set of ← Limitation 2 second reference pictures have the same value in spatial resolution.

APPLE-1002, 65-66 (claim 23 amendment; highlighting and annotations added).

In remarks that accompanied the amendment, the Applicant argued that the prior art failed to disclose these limitations. For example, the Applicant argued that Holcomb fails to disclose "selecting one of two kinds of reference pictures" and contended that none of the prior art discloses reference pictures and target pictures having "the same values in spatial resolution":

shown nor suggested by the cited art. In particular, the other encoder modules 240 of *Holcomb* input only a current frame and a reference frame. Thus, *Holcomb's* device fails to disclose Applicant's technique of selecting one of two kinds of reference pictures.

Barkley (newly-cited) only encodes information on a plurality of layers. Thus, *Barkley's* device fails to disclose a technique for selecting one of two kinds of reference pictures and fails to suggest using any such reference picture selection information to identify the selected reference picture.

It is further noted that there is no suggestion in any of the cited references to encode target pictures, the set of first reference pictures, and the set of second reference pictures which have the same values in spatial resolution.

APPLE-1002, 62 (highlighting added).

These amendments and remarks were critical in the Examiner's allowance. Recall that the claims had been rejected based on Phek, Holcomb, and Barkley prior to the addition of the above-noted limitations. But after the Applicant added these limitations by amendment in response to the final Office Action, the Examiner agreed to allow the application. APPLE-1002, 9-19. The Examiner's reasons for allowance specifically referenced limitations corresponding to those addressed above regarding selecting reference pictures and decoding targets with the same resolution:[3]

[3] The Examiner's reasons for allowance specifically quotes language from claim 22, which would later issue as independent claim 1 of the '995 Patent. However, the Examiner confirmed that claim 23 (corresponding to issued claim 2) was allowable "for the same reasons." APPLE-1002, 18.

> 8. The following is an examiner's statement of reasons for allowance:
>
> Claims have been found allowable because the prior art on record discloses all the limitations of claim 22 except for the limitation of:
>
> "a second encoder configured to: have the set of super-resolution enlarged and converted pictures from the first resolution converter as a set of encoding target pictures, the set of decoded pictures from the first encoder as a set of first reference pictures, and the set of super-resolution enlarged and converted decoded pictures from the second resolution converter as a set of second reference pictures, select one of the set of first reference pictures and the set of second reference pictures to create reference picture selection information to identify the set of selected reference pictures to implement a second process for encoding to create a second sequence of encoded bits based on the set of encoding target pictures and the set of selected reference pictures, and implement a third process for encoding for the reference picture selection information to create a sequence of encoded bits of the reference picture selection information, wherein the set of encoding target pictures, the set of first reference pictures, and the set of second reference pictures have the same value in spatial resolution"(Please see Office Action dated in May 23,2018).

APPLE-1002, 17 (highlighting added).

On further review, however, the Examiner's findings that "the prior art on record" does not disclose selecting a set of first or second reference pictures based on reference picture selection information, or that the art does not disclose reference and target pictures having the same spatial resolution, were made in error. As explained below, the same prior art that the Examiner had earlier applied to reject the claims discloses the limitations that were later deemed missing. The rejections therefore should have been maintained, not withdrawn. Considering these errors made during original examination of the '995 Patent, and further considering the Board's later, recent determination that the challenged claims of the '995 Patent are

likely unpatentable based on the same prior art cited in Apple's Petition, referral of the present Petition is particularly appropriate in this case.

1. Material Error 1: The Examiner Overlooked That the Applied Prior Art (Holcomb and Phek) Taught the First Limitation That Formed the Basis for Allowance, Namely Decoding Target Pictures and Reference Pictures Having the Same Value in Spatial Resolution

As described above, the Examiner determined that the applied prior art, including Holcomb (APPLE-1024) and Phek (APPLE-1005) do not disclose a target picture and reference pictures "hav[ing] the same value in spatial resolution." APPLE-1002, 17. Not so. The Examiner was mistaken as both unambiguously disclose this feature.

First, consider Holcomb. Holcomb discloses an encoder configured to set the spatial resolution of a reference picture to "***match***" and thus be the "same" as the spatial resolution of the "current frame" (i.e., the target picture). Specifically, Holcomb's system "selectively encodes [target] frames" at a "chosen" spatial resolution. APPLE-1024, 9:37-38, 9:4-6. Holcomb then re-samples the reference picture corresponding to the target picture (i.e., the current frame) "to match the new resolution of the current frame," thereby setting the values of the spatial resolutions of the target picture and reference pictures to the same spatial resolution in the manner that the Examiner erroneously found missing from the prior art.

> Once the encoder has chosen a spatial resolution for a current frame, the encoder re-samples the original frame to the desired resolution before coding it. If the current frame is a predicted frame, the encoder also re-samples the reference frame for the predicted frame to match the new resolution of the current frame. The encoder then transmits

APPLE-1024, 9:4-9.

To illustrate, Holcomb explains that the encoder can "selectively encode[] frames" at one of several different resolutions, including a "full original resolution," a "resolution down-sampled by a factor of 2 in the horizontal direction," a "resolution down-sampled by a factor of 2 in the vertical direction," or a "resolution down-sampled by a factor of 2 in both the horizontal direction and the vertical direction":

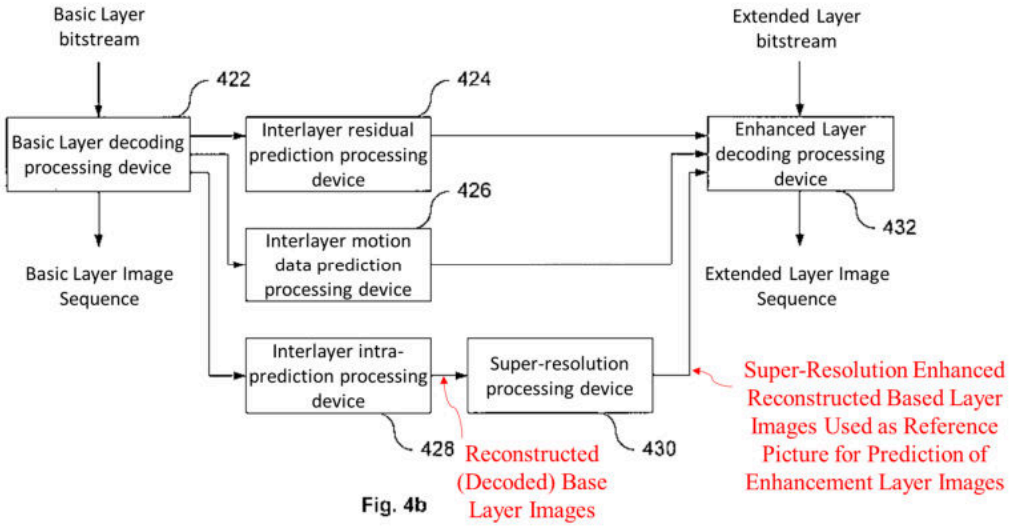
> In some implementations, the encoder selectively encodes frames at one of the following resolutions: 1) full original resolution, 2) resolution down-sampled by a factor of 2 in the horizontal direction, 3) resolution down-sampled by a factor of 2 in the vertical direction, or 4) resolution down-sampled by a factor of 2 in both the horizontal direction and the vertical direction. Alternatively, the encoder decreases or increases the resolution by some other factor (e.g., not a power of 2), has additional resolutions available, or sets resolutions using some other technique. The encoder sets the resolution for each frame relative to the original image size. Alternatively, the encoder sets the resolution for a frame relative to the resolution of the previous frame or the previous resolution setting; in other words, the encoder progressively changes resolutions relative to previous resolutions.

APPLE-1024, 9:36-51.

Because the reference picture is the same resolution as the resolution of the current/target picture being coded, Holcomb adjusts the size of the reference picture to "match" the chosen resolution of the current/target picture. APPLE-1024, 9:4-9.

Moreover, Holcomb's use of matching resolutions would not have been unexpected to a POSITA. The practice of setting reference pictures to the same resolution as the coding target pictures was in fact exceedingly common and the standard practice before the '995 Patent. *See, e.g.*, APPLE-1006, §II ("the width and height of the scaled regions of lower resolution and higher resolution pictures must have the same scaling ratio"); APPLE-1026, 25:27-37 ("the resolution converter 205 converts the resolution of the base layer image signal to the resolution corresponding to the enhancement image signal"); APPLE-1046, [0128] ("a resolution conversion circuit 3 for subjecting regenerated data … to resolution conversion in a way that its resolution becomes equal to that of the high resolution image signal"); APPLE-1024, 9:30-35 ("the encoder sets the resolution for the reference frame (630) before setting the resolution for the current frame (620)"), 14:40-46 ("the one or more spatial resolution scaling factors are constrained to be identical to the one or more spatial resolution scaling factors for the reference"), FIG. 6; Pet., 64.

As with Holcomb, the Examiner also misapprehended Phek (APPLE-1005)—the primary reference relied upon in Apple's Petition grounds—since Phek's reference pictures also have the same spatial resolution as its decoding target pictures. This can be seen from consideration of FIG. 4b of Phek, which depicts major components of a scalable decoding system:



APPLE-1005, FIG. 4b (annotated by Dr. Clifford Reader in APPLE-1003, p. 119).

The scalable decoder of FIG. 4b includes an "enhanced layer decoding processing device" 432. APPLE-1004, [0014]-[0015], FIG. 4b. The enhanced (extended) layer bitstream received by the decoding device 432 comprises decoding target pictures that have been enlarged to a higher spatial resolution based on "super-resolution" processing of the coded pictures at the encoder. *Id.*; *see also id.*, FIG. 2 (depicting super-resolution processing device 208). Likewise, as shown in the annotated figure above, the reference pictures produced by super-resolution processing device 430 are enlarged to the same spatial resolution as the coded pictures in the extended layer bitstream. *Id.* Thus, consistent with conventional practice and the approaches reflected both in Holcomb and the '995 Patent, Phek discloses a system that sets the reference pictures and the target coded pictures to have the same value in spatial resolution—exactly as claimed. *Id.*

Significantly, the Board's prior institution of Samsung's IPR on the '995 Patent (IPR2024-00372) based on substantially similar Phek-based grounds confirms the relevance of Phek's disclosure to this limitation. Indeed, the Board specifically found this limitation rendered obvious by the Phek-based grounds in Samsung's petition. APPLE-1045 ("we disagree with Patent Owner's argument"), 25 ("Petitioner has shown a reasonable likelihood of prevailing"). The Board's endorsement of Phek-based grounds for this limitation only serves to highlight the Examiner's error in allowing the '995 Patent over Phek, Holcomb, and the other prior art of record during prosecution.

2. Material Error 2: The Examiner Overlooked That the Applied Prior Art (Holcomb) Taught the Second Limitation That Formed the Basis for Allowance, Namely the Use of Reference Picture Selection Information to Select First or Second Sets of Reference Pictures

The Examiner's errors during prosecution of the '995 Patent further extended to the second limitation identified in the reasons for allowance, which was directed to selecting one of a set of first reference pictures and the set of second reference pictures based on ***reference picture selection information***. APPLE-2002, 17, 65-66. The file history suggests that the Examiner simply accepted the Applicant's argument in response to the final Office Action of May 23, 2018 that "Holcomb's device fails to disclose Applicant's technique of selecting one of two kinds of

reference pictures." APPLE-1002, 62. But the Applicant's argument was false, and the Examiner appears to have been misled.

To this point, Holcomb explains that "[t]o provide the decoder with sufficient information to decode multi-resolution encoded frames, the encoder uses bitstream signaling," which involves "send[ing] signals in the form of one or more flags or codes." APPLE-1024, 10:15-11:17; *see also id.*, 11:3-5 ("use a signal … to indicate which filter"). Holcomb's bitstream signals represent "reference picture selection information" as claimed because they inform the decoder of which reference pictures to select based on resolution and/or filter type. *Id.*

For instance, as discussed in the prior section, Holcomb's encoder "selectively encodes frames at one of" several different spatial resolutions, and Holcomb "re-samples the reference frame for the predicted frame to match" the resolution of the current frame being encoded. APPLE-1024, 9:4-12, 9:36-51. Holcomb further explains that "[i]f the frame is a P-frame, the decoder sets the resolution for the reference frame before setting the resolution for the current frame," thereby ensuring the resolutions match. *Id.*, 10:1-6. Holcomb thus describes how reference pictures can be re-sampled to obtain different sets of reference pictures. *Id.*, 9:37-42-44 ("full original resolution"; "resolution down-sampled by a factor of 2 in the horizontal direction"; "resolution down-sampled by a factor of 2 in the vertical direction"; "resolution down-sampled by a factor of 2 in the both the horizontal and vertical

directions"). Each re-sampling technique produces a different set of reference pictures. *Id.*

> In some implementations, the encoder selectively encodes frames at one of the following resolutions: 1) full original resolution, 2) resolution down-sampled by a factor of 2 in the horizontal direction, 3) resolution down-sampled by a factor of 2 in the vertical direction, or 4) resolution down-sampled by a factor of 2 in both the horizontal direction and the vertical direction. Alternatively, the encoder decreases or increases the resolution by some other factor (e.g., not a power of 2), has additional resolutions available, or sets resolutions using some other technique. The encoder sets the resolution for each frame relative to the original image size. Alternatively, the encoder sets the resolution for a frame relative to the resolution of the previous frame or the previous resolution setting; in other words, the encoder progressively changes resolutions relative to previous resolutions.

APPLE-1024, 9:36-51 (describing multiple resolutions to which different sets of reference pictures can be matched).

Holcomb further differentiates reference pictures by the type of filter applied. APPLE-1024, 11:3-9 ("indicate which filter is to be used for re-sampling in situations where more than one filter is available"). Because Holcomb's system applies different filters to re-sample reference pictures even when they share the same resolution, Holcomb specifically teaches a first set of reference pictures and a second set of reference pictures having the same value in spatial resolution as claimed. *Id.* By referencing bitstream signals that indicate the type of filter to apply to the reference pictures, Holcomb's decoder selects a set of reference pictures to

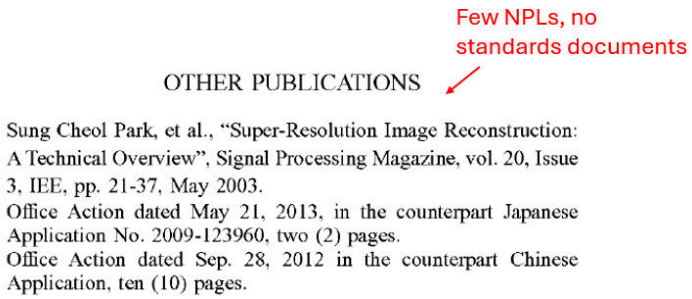
decode target pictures based on reference picture selection information. The Examiner failed to appreciate this fact.

3. Material Error 3: The Examiner's Deficient Search Strategy Led the Examiner to Overlook Relevant Video Standards Documents and additional Relevant Prior Art

The prosecution history further reveals material deficiencies in the Examiner's search strategy that led to the oversight of highly pertinent prior art references, including industry-standard documents that are expressly discussed in the specification of the '995 Patent itself. The '995 Patent expressly references multiple established video-coding standards – including MPEG-1, MPEG-2, MPEG-4 AVC/SVC, H.264/AVC/SVC, JPEG2000, and standards specified under ISO/IEC SC29WG11 (*see* APPLE-1001, 1:66-2:4, 2:22-24, 16:46-63; 29:67-30:5; 60:7:13), yet the Examiner's search strategy conspicuously failed to identify relevant non-patent literature from these well-established technical standards bodies.

The Examiner's search history demonstrates an over-reliance on keyword searches, CPC classifications (H04N 19/33, 19/40, 19/436, etc.), and patent publication number queries, while entirely neglecting to search non-patent databases for standards documents, technical specifications, or academic literature despite the Applicant's submission of a pertinent non-patent reference entitled "Super-Resolution Image Reconstruction: A Technical Overview" in the Information Disclosure Statement dated April 21, 2015. See APPLE-1002, 686. This narrow

search approach resulted in the Examiner's failure to locate highly relevant prior-art references, including Segall (APPLE-1006) and Martins (APPLE-1007), which directly relate to the video-coding techniques that align closely with the claimed invention. Given that the '995 Patent was filed in 2015 with priority dates extending back to 2008-2009, the Examiner should have reviewed contemporary work in H.264/MPEG-4 AVC Scalable Video Coding, which had been standardized and well established in the field during the relevant time period. However, these standards documents and other pertinent art were almost entirely overlooked. This can be seen from the face of the patent, which lists just four non-patent literature references, two of which are Office Actions, and none of which are standards documents that would have established that the und concepts disclosed in the '995 Patent:



APPLE-1001, Cover (annotated).

For each of these reasons, the Examiner committed multiple errors during prosecution that wrongly led to allowance of the '995 Patent. Petitioner respectfully submits that these errors warrant further Board review and that the Petition should be referred.

B. The Petition Presents a Strong Patentability Challenge Based on the Same Prior Art That the PTAB Previously Endorsed Through Institution of an Earlier IPR on the '995 Patent

The Petition presents straightforward obviousness grounds that are especially strong on the merits. This is evident from the Board's prior institution of Samsung's petition on the '995 Patent based on the *same* prior art—Phek, Segall, Martins, and He—that Apple applies in the present Petition. *Compare* Paper 2, *with* APPLE-1044. For example, the present Petition relies in Ground 1A on a Phek/Segall/Martins/He combination to demonstrate obviousness of claims 2-4 and 11 of the '995 Patent. The Board's institution decision in the Samsung proceeding addressed similar contentions of obviousness based on the Phek/Segall/Martins/He combination and found that the combination likely teaches all limitations of the claims. APPLE-1045, 25 ("Petitioner has shown a reasonable likelihood of prevailing as to the unpatentability of at least one claim.").

Notably, the Acting Director has repeatedly referred petitions challenging claims on which the Board previously instituted an IPR challenge or which the Board had finally determined to be unpatentable. *See Tesla*, IPR2025-00217, Paper 9, at 2-3 ("Other considerations, however, counsel against discretionary denial. For example, Petitioner … asserts that the merits are strong because the Board previously determined there was a reasonable likelihood that similar claims of an ancestor patent were unpatentable in three separate proceedings with respect to some

of the challenged patents in these proceedings."); *Posco Co., LTD. V. Arcelormittal*, IPR2025-00370, Paper 10 at 3 (PTAB Jun. 25, 2025) ("[I]t is an appropriate use of Office resources to provide consistency and predictability to the public and to ensure that a patent applicant or owner does not take action inconsistent with the judgment in a prior Office proceeding."); *Mercedes-Benz Group AG v. The Phelan Group, LLC*, IPR2025-00758, Paper 8 at 2 (PTAB August 14, 2025) (referral decision highlighting that "[t]he challenged patent" in a recently instituted IPR "has similar claims to those challenged in this proceeding"); *Padagis US v. Neurelis*, IPR2025-00464, Paper 12 at 2-3 (PTAB July 16, 2025) (a prior decision indicating unpatentability of claims of a related patent reciting similar subject matter as the challenged claims weighs against discretionary denial); *Nintendo Co., LTD et al., v. Resonant Systems*, IPR2025-00680, Paper 18 at 3 (PTAB August 14, 2025) ("Other factors counsel against discretionary denial as well. In particular, in an *inter partes* review of a continuation patent of the challenged patent, the Board has determined claims that are substantially similar to the challenged claims to be unpatentable."). The principle highlighted in these decisions should apply in even greater force here where Apple's petition does not merely challenge "similar" or "related" claims to those challenged in a previously instituted IPR, but rather challenges the ***same*** claims as those challenged in the instituted Samsung petition based on overlapping prior art.

Moreover, ACT's discretionary-denial brief identifies no substantive deficiency in the Petition's obviousness grounds at all. Referral is appropriate under these circumstances. *See* APPLE-1086, 30-40, 47-48 (explaining that post-grant proceedings were designed to serve the goal of improving patent quality by enabling efficient challenges to patents that should not have been issued in the first instance).

C. The Complexity of the Litigation and Diverse Technology of the Asserted Patents Favors Institution

ACT's assertion of a "large number and vast scope of [] patents" directed toward "a diverse range of subject matter" in the parallel district court proceeding is the precise situation for which "the Board is better suited to review" issues of validity, just as was the case in *Tesla*. IPR2025-00217, Paper 9, 2-3; *see also Apple Inc. v. Apex Beam Technologies LLC*, IPR2025-00896, Paper 10, 2-3 (September 3, 2025) ("*Apex Beam*") ("The large number and wide scope of the patents asserted in the district court litigation weighs against discretionary denial, as the Board is better suited to review a large number of patents involving diverse subject matter."); *Shenzhen Touzhu Tech. Co. Ltd. v. Stratasys*, IPR2025-00438, Paper 10, 3 (Stewart July 17, 2025) ("*Shenzhen*") ("six families that involve a diverse range of subject matter … weighs against discretionary denial"). Much like the multi-patent litigation at issue in *Tesla*, the '995 Patent at issue here is part of "complex and diverse" multi-patent litigation spanning multiple patent families,

over forty-five claims, and numerous distinct technologies involving several independent standards bodies.

The ’995 Patent challenged in this proceeding is but one of ***six*** patents that ACT has asserted against Apple. Against this backdrop, Apple has asked the PTAB to apply much-needed scrutiny to ACT’s patents by filing IPR petitions on each of the asserted patents. Apple’s pending petitions seek review of the ***six*** patents, which span a broad range of technologies and claim scope in the general areas of encoding and decoding information for storage and wireless communications, including claims directed to the following:

- adaptive bandwidth utilization enabling simultaneous real-time monitoring and retroactive high-quality video reconstruction (U.S. Patent No. 9,986,303, Abstract);
- super-resolution video decoding system enabling multiple quality outputs from hierarchically encoded streams (U.S. Patent No. 10,218,995);
- dual-pathway super-resolution video encoding system creating enhanced quality content from standard resolution inputs through parallel processing streams. (U.S. Patent No. 10,218,995 – second claim set);
- zone-border motion compensation using Poisson's Equation to

eliminate block discontinuities in video prediction without smoothing filters (U.S. Patent No. 8,090,025);

- super-resolution video encoding system that creates high-resolution video content from standard-resolution input using dual enhancement pathways and predictive reference selection (U.S. Patent No. 9,042,448);
- seamless distributed media server with transparent content migration and unified content presentation across multiple storage devices (U.S. Patent No. 8,230,101); and
- real-time communication quality assessment through embedded redundant bit analysis with adaptive data masking and error mitigation. (U.S. Patent No. 7,804,891).

As illustrated by the patents above, ACT's asserted patents involved in the pending IPRs cover a broad array of subject matter including data rate determination, adaptable compression, and data reconstruction ('995 Patent); super-resolution data encoding and decoding using multiple encoders/decoders and resolution considerations ('995 and '448 Patents); channel quality estimation and data compensation ('891 Patent); motion estimation using Poisson's equation to approximate block boundary conditions ('025 Patent); and data transfer and storage that includes transfer decision making and searchability ('101 Patent). To

account for the variety of technologies and claims at issue, Apple filed ***seven*** IPR petitions, totaling ***22*** grounds and ***22*** different prior art references. The diverse subject matter involved strongly favors referral. *Tesla*, IPR2025-00217, Paper 9, 2-3; *Apex Beam*, IPR2025-00896, Paper 10, 2-3. As was the case in *Tesla*, *Shenzhen,* and *Apex Beam*, "the Board is better suited to review a large number of patents involving diverse subject matter." *Id.* While it would be difficult for a single trier-of-fact to adequately assess validity of all of the diverse claims at issue in these proceedings, the PTAB is well situated to do so competently and efficiently. Interests of efficiency, justice, and the promotion of a strong patent system favor continued PTAB review of ACT's patents, including referring the present Petition for adjudication on the merits.

The question of the patentability of the '995 Patent claims also implicates several video coding standards, including MPEG-1, MPEG-2, MPEG-4 AVC/SVC, H.264/AVC/SVC, JPEG2000, and standards specified under ISO/IEC SC29WG11. APPLE-1001, 1:66-2:4, 2:22-24, 16:46-63; 29:67-30:5; 60:7:13. As the Petition highlights, many aspects of the Challenged Claims were incorporated by one or more of the video coding standards well before the '995 Patent's Critical Date. *E.g.*, Pet., 5-6 (citing APPLE-1003, APPX-A, §§II.A-I, V.A.1-4). These standards include esoteric and highly technical language to describe the operations involved in video coding and decoding, as well as video compression techniques for

preparing data for transmission across a wireless network. *Id*. That these standards are implicated in the patentability analysis of the Challenged Claims is further evidence that such an analysis is best carried out by PTAB judges who are well versed in the technology.

D. Substantive *Inter Partes* Review, Available Only Upon Referral, Would Yield Significant Efficiencies

The PTAB is uniquely situated to provide efficient review of the '995 Patent given the complex validity issues not only at issue in this proceeding, but six others that implicate the other asserted patents. *Inter partes* review in this proceeding (and the six other proceedings) thereby serves the public interest by centrally settling patent validity, rather than forcing distinct validity challenges before the district court. This promotes the AIA's objectives of improving patent quality and reducing unwarranted litigation burdens on the public and industry participants. *See* 35 U.S.C. § 311; APPLE-1086, pt. 1, at 48 (noting role of IPR in providing "a quick and cost effective alternative[] to litigation").

Such centralized review is crucial because ACT's track record demonstrates a propensity to assert the patents against adopters of widely-used standards-based technology. ACT has already established a pattern of aggressive enforcement of the '995 Patent and many of its other patents. APPLE-1090. It has also contended that supporting the AV1 standard implicates its patents, and it has repeatedly filed

lawsuits targeting companies that make products that use AV1. The high likelihood of future assertions against entities supporting related technologies and the underlying standard reinforces the importance of validity investigation of the '995 Patent and other patents. Indeed, in enforcing the asserted patents, ACT simply accuses the practice of the AV1 standard, and it has already filed four distinct district court litigations against Apple, Samsung, LG, and Google. Further litigation is, therefore, likely, and addressing validity at the PTAB would serve to resolve a key question that will otherwise need to be addressed multiple times over, in less efficient forums that do not bring the benefit of perspective from highly technical PTAB judges.

According to the Alliance for Open Media, the AV1 standard, which ACT claims is infringed by its patents, is "a collaborative effort to develop open standards and software under a royalty-free patent policy" and whose members include "some of the world's largest patent holders." *See* APPLE-1075.

Indeed, the AV1 website lists many members, including Apple, Google, and others. https://aomedia.org/about/members/. APPLE-1076. Institution of this proceeding thereby resolves validity, and in doing so, helps create predictability for practicing entities within this technology domain. It further creates significant downstream efficiencies for the Patent Office, the courts, and the public by resolving validity once and for all at a single time in a single forum.

Given the ubiquitous nature of AV1—a global standard that supports applications used on billions of devices—the risk of further litigation on this patent is not speculative. It is reasonably foreseeable because patent litigation against companies offering products that support AV1 and similar standards has been both serial and prolific. Beyond Apple, numerous other companies manufacture or implement software that relies on the AV1 standard, including but not limited to those against which the patent has been asserted thus far.

Finally, *inter partes* review of this proceeding is also consistent with recent discretionary guidance regarding counterpart litigation that "would proceed to several district court trials in different jurisdictions." *Berkshire Hathaway Energy Company, et al. v. BirchTech Corp.*, IPR2025-00274, Paper 23, 2-3 (Stewart July 2, 2025) ("*Berkshire*"). There, such litigation resulted in *inter partes* review being deemed to represent an efficient use of Office resources. *Id.* ACT's serial litigation activity suggests that Apple will not be the last defendant accused of infringement. ACT's assertion of six patents, therefore, both in the litigation and any future litigations against companies supporting AV1 technology is likely to span multiple district court trials across multiple jurisdictions. Under these circumstances, "resolving the dispute between the parties at the Office would be more efficient." *Berkshire*, IPR2025-00274, Paper 23, 2.

C. Additional Considerations Identified in the Stewart Memorandum Favor Referral

The Stewart Memorandum dated March 26, 2025, titled "Interim Process for PTAB Workload Management," identified additional considerations that may be evaluated when addressing discretionary issues. APPLE-1052. These considerations include:

1. The strength of the unpatentability challenge;
2. Settled expectations of the parties, such as the length of time the claims have been in force;
3. Compelling economic, public health, or national security interests;
4. Whether the PTAB or another forum has already adjudicated the validity or patentability of the challenged patent claims;
5. Whether there have been changes in the law or new judicial precedent issued since issuance of the claims that may affect patentability;
6. The extent of the Petition's reliance on expert testimony; and
7. Any other considerations bearing on the Director's discretion.

ACT's briefing only addresses settled expectations (which Apple addresses in §§III.A-B), and does so in a cursory manner. *See* Paper 6, 8-9. As explained above, however, ACT does not enjoy strong settled expectations. Other compelling considerations, including Examiner error in issuing the '995 Patent offset ACT's

claims to settled expectations. Further, as explained below, proper consideration of these factors confirms that discretionary denial is not warranted, and that conclusion is only reinforced by the other considerations recited in the Stewart Memorandum that ACT omitted from its analysis.

1. Compelling Economic Interests Favor Referral

Institution and merits review of the '995 Patent (one of 6 patents asserted in co-pending litigation) would provide timely clarity on the scope and validity of rights purported to cover standard implementations of video coding technologies—clarity that would enable efficient planning and capital allocation by U.S. manufacturers and investors. Apple is leading in its investment in U.S. manufacturing, having recently announced a new $100 billion U.S. investment through its American Manufacturing Program to build an end-to-end American silicon supply chain and to co-develop and manufacture cellular semiconductor components with U.S. partners across the continent. *See* APPLE-1054. This brings Apple's four-year commitment in U.S. investment to $600 billion.

If the asserted patents are found unpatentable, early resolution brings efficiency to the parties' dispute. And, even if found not unpatentable, by engaging in this validity investigation, the Board will provide certainty and guidance that would inform U.S. manufacturers and investors, particularly those whose products and services rely on AV1 open source video coding technologies.

Either way, substantive engagement by the Board helps to inform scaling of U.S. production and support infrastructure. In short, referral for merits review advances efficiency and the public interest by reducing friction and enabling informed investment in American manufacturing, development, services, and support tied to video technologies. This includes Apple's iPhone, iPad, MacBook, iMacs, and other computing systems, which support AV1 hardware. Apple devices provide a high-end, stable processing system to support streaming services and video playback. Reconciliation of the validity of the asserted patents will at best protect the economic interests associated with Apple's ability to continue to provide such services to consumers, and at worst clarify the legal landscape surrounding patents that allegedly encumber AV1 open-source technologies for other stakeholders.

Nearly 15 years ago in 2011, Congress passed the Leahy-Smith America Invents Act ("AIA") to address flaws in the patent system. Of particular concern was the proliferation of low-quality patents and the corresponding rise in abusive enforcement, particularly by non-practicing entities (NPEs). *See, e.g.*, *Thryv, Inc. v. Click-To-Call Techs.*, 590 U.S. 45, 54 (2020) ("Congress, concerned about overpatenting and its diminishment of competition, sought to weed out bad patent claims efficiently."); APPLE-1066, 39-40 ("[Q]uestionable patents [were] too easily obtained and too difficult to challenge."). With these concerns in mind, Congress identified as one of the primary goals of the AIA "establish[ing] a more efficient and

streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs." *Id*., 40. Through creation of the PTAB and IPR, Congress aimed to curtail NPE litigation tactics like forum shopping and reduce the economic impact of NPE driven litigation on innovators and the judicial system.

The AIA's creation of the PTAB and IPR served to improve patent quality, reduce the costs and inefficiencies of district court litigation, and curb forum shopping—benefits Congress recognized would disincentivize litigation of low-quality patents and thus reduce its economic impact on innovators and the judicial system. *See, e.g.*, APPLE-1086, 39-40; APPLE-1091, 56 (noting the importance of the AIA to "address this problem of nonpracticing entities that we believe exploit flaws in the current patent system").

Here, there can be no doubt that ACT is an NPE. ACT purchased the '995 Patent (and the other challenged patents) from JVC Kenwood in February 2022 and almost immediately began its assault on industry leaders. ACT's business is patent assertions and litigation, having two principal locations in the Eastern District of Texas. APPLE-1092. ACT is exactly the sort of NPE that the PTAB and the IPR process was designed to counter.

Apple, by contrast, is a technology leader that has invested billions of dollars in new and ongoing economic activity in the United States—i.e., activity that ACT seeks to disrupt through its aggressive and meritless litigation campaign. The public

deserves more. The Supreme Court has emphasized that the PTAB's very "purpose and design" is fulfilled by addressing the merits of cases, not by shunning much-needed review before it starts. *Thryv, Inc. v. Click-To-Call Techs.*, 590 U.S. at 54 ("By providing for *inter partes* review, Congress, concerned about overpatenting and its diminishment of competition, sought to weed out bad patent claims efficiently").

Such considerations weigh heavily in favor of referral and Apple respectfully requests an opportunity for the strong grounds presented in its Petition on the '995 Patent to be considered at the PTAB. In this regard, Apple seeks efficient resolution at the PTAB of the patentability of the challenged claims of yet another patent asserted against it by a highly-litigious and non-practicing entity that is actively pursuing multi-patent litigation campaigns against Apple, and other entities.

2. The Patentability of the '995 Patent Claims Has Not Been Fully Adjudicated

Although the PTAB has previously instituted a petition on the '995 Patent based on the same prior art as that applied in Apple's petition, no other forum has finally adjudicated the validity of the challenged claims. And, as explained, the District Court will not consider overlapping prior art if institution is granted, leaving the PTAB as the only forum to resolve these issues. The PTAB's previous decision to institute the prior art grounds, however, is indicative of the strength of the merits.

3. No Changes to the Obviousness Standard Weighs in Favor of Institution

As explained in the Petition and as further confirmed by this brief, the strong merits of the Petition demonstrate that the '995 Patent's claims are unpatentable in view of the prior art and grounds—which grounds were not previously before the Patent Office during the examination. There has been no change in law or judicial precedent, particularly as it relates to obviousness under Section 103, that would alter a determination of unpatentability of these claims. ACT identifies nothing to the contrary.

III. DISCRETIONARY DENIAL IS NOT WARRANTED

A. ACT Lacks Strong Settled Expectations

ACT cannot credibly claim that it enjoyed strong settled expectations that the '995 Patent claims were patentable by the time it sued Apple in July 2024. The '995 Patent issued in 2019, and thus, has been in force for barely six years since the filing date of the Petition—not long enough to establish a legitimate claim to settled expectations, much less strong settled expectations. *See Tanklogix v. Sitepro,* IPR2025-00650, Paper10 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."); ; *Cambridge Industries USA, Inc. v. Applied Optoelectronic, Inc*., IPR2025-00434,

00436, Paper 11 at 2-3 (PTAB June 26, 2025) ("Furthermore, most of the challenged patents have not been in force for a significant period of time (issued in 2020, ***2019*** and ***2019***), and, accordingly, Patent Owner has not yet developed strong settled expectations that favor discretionary denial as to at least those patents."); *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."). Indeed, relative to the recent issuance, post grant challenges to such young patents have been consistently characterized as "early" and "favor[ing] robust, predictable patent rights and weigh[ing] against discretionary denial." *See Tanklogix* at 3 (patent issued in 2019 deemed to "have not been in force for a significant amount of time.").

Moreover, ACT only acquired the '995 Patent from JVC Kenwood on February 28, 2022, less than four years later. APPLE-1077. Within that same year, ACT asserted the '995 Patent against Samsung, who timely filed an IPR challenge against claims 1-2. APPLE-1044 (IPR2024-00372, "the Samsung IPR").

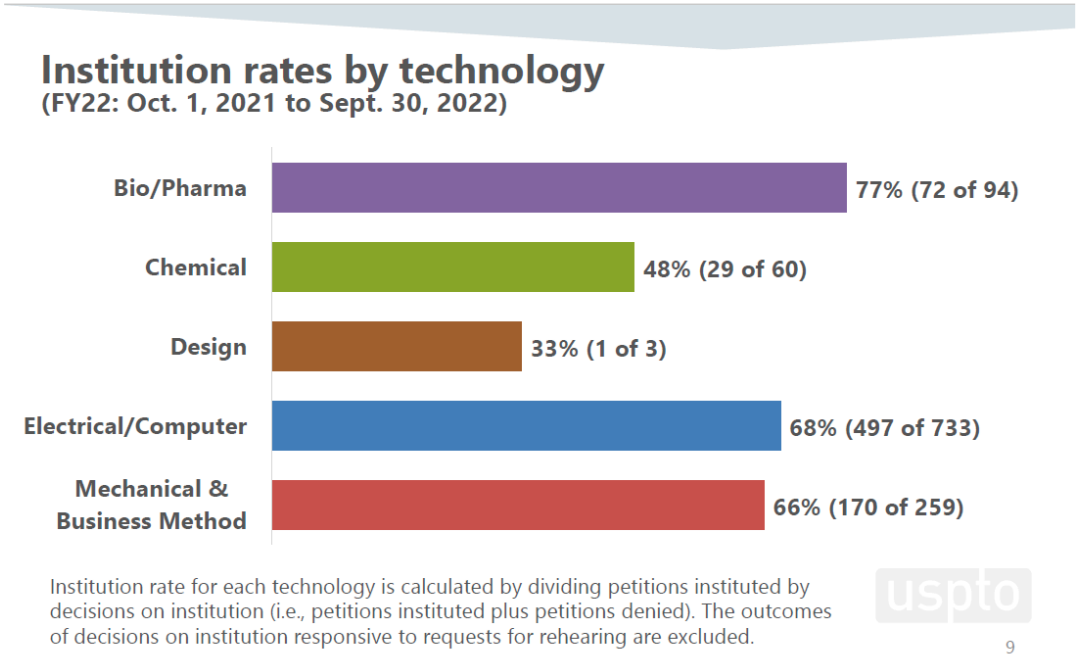
Thus, ACT has been on notice of vulnerabilities to the patentability of the ’995 Patent claims since at least January 2024—within 2 years of ACT procuring the patent and within 5 years since issuance. The PTAB instituted the IPR based on the merits of the Petition, even in view of ACT’s arguments in its pre-institution briefing. The parties terminated the IPR proceeding before ACT filed its POR. *Id*., Paper 18 (PTAB September 20, 2024). The vulnerabilities to the patentability of the ’995 Patent claims from the Samsung IPR persist and are reiterated in Apple’s Petition; and while there is an open question as to the patentability of the Challenged Claims, ACT cannot be said to enjoy settled expectations.

That ACT lacked settled expectations is also made clear by the fact that ACT asserted the ’995 Patent against Apple just four days after the PTAB instituted the Samsung IPR on the ’995 Patent. APPLE-1004; APPLE-1045; So, ACT brought the litigation with the understanding that there was at least a reasonable likelihood that the ’995 Patent was invalid.

Note that the publication of the ’995 Patent publication in 2015 (U.S. Patent Publication 2015/0229942 or “the ’942 publication”) has no bearing on the expectations of the Patent Owner or others because the claims reflected by the publication are not the same as those of the granted patent. Indeed, none of the claims appearing in the ’942 publication include the features that the Examiner considered to be allowable. The Examiner only identified allowable subject matter

in the notice mailed October 4, 2018 (more than three years after the August 13, 2015 publication date). APPLE-1002, 9.

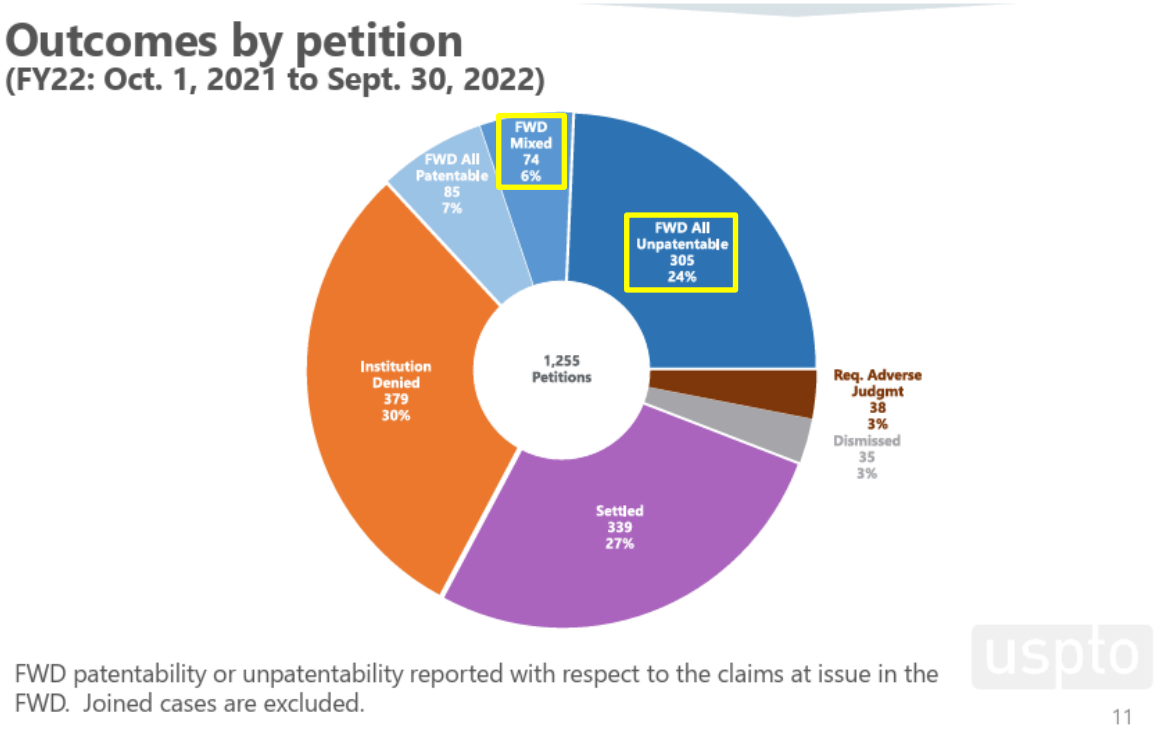
ACT's expectations as to the question of patentability should also turn on other factors that existed at the time it was considering purchasing the patents, including the likelihood of an asserted patent being challenged at the PTAB under IPR. As mentioned above, ACT acquired the '995 Patent from JVC Kenwood and executed an assignment on February 28, 2022. According to the USPTO, in Fiscal Year 2022,[4] 68% of IPR petitions for patents in the Electrical/Computer arts were instituted:



[4] FY22 is October 1, 2021 to Sept. 30, 2022.

APPLE-1078 at 9

And the vast majority of petitions that made it to Final Written Decision resulted in some or all claims found unpatentable:



APPLE-1078 at 11 (annotated)

Therefore, at the time that ACT secured the rights to the ’995 Patent, a significant number of IPR petitions were being instituted and a significant percentage of claims were being found unpatentable. The statistics show that IPR petitioners were more likely than not to be instituted, and if carried forward, they were successful in rendering most, if not all, challenged claims unpatentable. Thus, it is reasonable to assume that ACT was aware that its assertion of a patent in District

Court would have been met with an IPR challenge.[5] In that context, it is reasonable to conclude that ACT's expectations about the patentability of the '995 Patent claims were unsettled, and there is no evidence to suggest that those expectations have changed.

Moreover, ACT only recently became litigious, after purchasing patents in February 2022. It brought its first patent lawsuit against ByteDance in April 2022, and not long after, asserted the '995 Patent against Samsung. *See* APPLE-1090. It has since filed several district court complaints against defendants across the industry including not just Apple but also Samsung, LG, and Google. *See* APPLE-1090. ACT asserted the '995 Patent against Apple four days after the PTAB instituted the Samsung IPR on the '995 Patent. Further, ACT provided no notice to Apple about the '995 Patent before it launched its litigation action in the Eastern District of Texas in July 2024. There was no reason to expect that ACT would assert the '995 Patent at that time given that the Board had recently instituted IPR on the '995 Patent and that more than a year and a half had passed since ACT had initiated its suit against Samsung in October 2022.

[5] Indeed, ACT has been a party in no fewer than 19 IPRs since April 2022.

1. Regardless of Settled Expectations, Discretionary Denial Would Still Be Inappropriate Due to Material Error By the Office

Even if Patent Owner had a legitimate claim to settled expectations (it does not), those expectations are further offset and overcome by material error in the examination of the ’995 Patent. In *Anthony*, “challenged patents … in force for approximately eighteen and seventeen years” did not support discretionary denial because “Petitioner appears to show a material error by the Office.” IPR2025-00559, Paper 12, 2. Here, the ’995 Patent is just six years sold—i.e., more than 11 years younger than the patents at-issue in Anthony, and thus, any material error in the examination of the ’995 Patent is a much more “appropriate use of Office resources to review the potential error.” *Id*.

As noted in Section II.A, like *Anthony*, the material error in examination of the ’995 Patent results from premature allowance reflecting the Examiner’s lack of appreciation for relevant prior art. *Anthony*, IPR2025-00559, Paper 12, 2 (noting that “the patent examiner erred by overlooking the teachings of Carter” in “issu[ing] a notice of allowance of both patent applications as the first office action”). More specifically, for example, the Examiner’s reasons for allowance referred to limitations directed to reference picture selection and setting different reference and target pictures in the video coding process to have the same value in spatial resolution. *Supra*, §II.A. But the Examiner overlooked that the prior art

applied during examination including Holcom and Phek expressly disclose these limitations. *Id.* This reflects material error during examination. Such conduct frustrates the Office's examination process and disturbs the settled expectations of implementers and the public. *Ecto World, LLC, et al. v. RAI Strategic Holdings, Inc.*, IPR2024-01280, Paper 13, 5 (Stewart May 19, 2025) (precedential).

B. Discretionary Denial is Not Warranted Under *Fintiv*

ACT only discusses some of the *Fintiv* factors in its briefing, but as discussed below, a holistic weighing of all factors favors institution. *See Fintiv*, IPR2020-00019, Paper 11, 5-6.

1. Factor 1: Apple Has Requested a Stay Pending IPR in the District Court Litigation (Neutral)

Fintiv Factor 1 looks to "whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted." This factor is neutral given that no litigation stay has been granted and no evidence clearly establishes how the district court would resolve such a request even if a stay were requested upon institution.

While Apple has requested a stay pending *inter partes* review, Judge Gilstrap has not yet ruled on the motion. ACT does not dispute that nothing precludes the possibility of a stay being granted in the Eastern District of Texas ***after institution***. Indeed, EDTX does not automatically deny stays ***after***

institution. Indeed, Judge Gilstrap and Magistrate Judge Payne have granted post-institution motions for stay where the defendant/petitioner has made a strong stipulation to be bound by IPR estoppel—exactly as Apple has done here with a stipulation (APPLE-1073) that is far broader than even the IPR estoppel provisions. *See, e.g.*, APPLE-1079, APPLE-1080. Magistrate Judge Payne has also explained that stays in patent cases do not unduly prejudice plaintiffs that do not produce a product (e.g., litigation entities like ACT) because a "mere delay in collecting … damages does not constitute undue prejudice." APPLE-1080 (citing *Uniloc USA, Inc. v. Acronis, Inc.*, No. 615-cv-1001-RWS-KNM, 2017 WL 2899690, at *2 (E.D. Tex. Feb. 9, 2017)).

2. Factor 2: The Court's Trial Date is Speculative and the Trial will Not Address Patentability of a Majority of Claims Challenged in Apple's Diligently Filed Petition (Mitigated by Strong Stipulation and Other Considerations)

Fintiv Factor 2 looks to "proximity of the court's trial date to the Board's projected statutory deadline for a final written decision" as part of a holistic evaluation of fairness and efficiency, which includes considering which forum will assess the patentability of the challenged claims. *See Fintiv*, IPR2020-00019, Paper 11, 5-6; *see also id.*, Paper 15, 7-17 (PTAB May 13, 2020) (informative) (explaining that, in evaluating the *Fintiv* factors, the Board "takes a holistic view of whether efficiency and integrity of the system are best served by denying or

instituting review"); *Illumina, Inc. v. Natera, Inc.*, IPR2019-01201, Paper 19, 6 (PTAB December 18, 2019) ("We have considered the positions of the parties and find that, on this record, considerations of efficiency, fairness, and the merits of the grounds in the Petition do not weigh in favor of denying the Petition."). This factor weighs against discretionary denial or at worst, is neutral.

As a starting point, trial dates routinely change. Further, such trial date changes are common in the Eastern District of Texas. The Office has likewise recognized that "scheduled trial dates are unreliable and often change." APPLE-1081, 8. Thus, while the District Court trial is currently scheduled (April 20, 2026) to occur before the Board's expected deadline (December 2026) to issue a Final Written Decision, that time difference is likely to be reduced significantly if history is a guide. Moreover, the median time-to-trial for civil cases in EDTX has increased to 25.1 months according to current statistics, which would project trial to begin in late August 2026—months after the currently scheduled date. APPLE-1088, 35.

To be sure, the prospect of the currently scheduled trial date being delayed is significant given a number of factors. First, Apple's motion to transfer to the Northern District of California is currently pending before the court, casting doubt on the actual trial date. Second, assuming that the district court litigation remains in EDTX, the actual trial date is uncertain given that Judge Gilstrap currently has

nine trials simultaneously scheduled to start jury selection on April 20, 2026, only one of which is the ACT litigation. APPLE-1087 ***All nine cases*** involve complex patent disputes. *Id.* By advocating for discretionary denial based on the scheduled jury selection date, ACT assumes without basis that Judge Gilstrap will prioritize ACT's litigation over the ***eight other patent cases*** scheduled to begin jury selection on the same day. Even if no one of the nine cases were favored over the others, the likelihood that ACT's litigation would be the one selected to start jury selection on April 20, 2026, is small—about 11% (i.e., 1/9).

ACT also fails to acknowledge the significant amount of time required to reach a final judgment ripe for any appeal—after the resolution of post-trial motions. A recent analysis of cases before Judge Gilstrap shows that post-trial motions are not resolved on average for ***6.9 months*** after a jury trial. APPLE-1089, 2. Even if jury selection for trial in the ACT litigation did begin on April 20, 2026, the "final resolution" (if it occurs at all) would likely not occur until sometime after October 2026.

Apple's stipulation also undercuts ACT's arguments pertaining to the trial date. APPLE-1073. Apple has stipulated to forgo pursuing "the specific grounds asserted in *inter partes* review in this proceeding, or any other ground that could have been reasonably raised in this proceeding (i.e., any ground that could have been raised under §§ 102 or 103 on the basis of prior art patents or printed

publications). *See Sotera Wireless, Inc. v. Masimo Corporation*, IPR2020-01019, Paper 12 (PTAB December 1, 2020). Apple also stipulated that, "if the PTAB institutes review in this proceeding, Apple will not pursue in the Texas litigation combinations of the prior art asserted in this proceeding with any other type of prior art, including unpublished system prior art. *See Motorola*, IPR2024-01205, IPR2024-01206, IPR2024-01207 & IPR202401208, Paper 19; APPLE-1073. Apple's stipulation mitigates the risk of significant duplication of effort, additional expense for the parties, and a risk of inconsistent decisions by removing from the litigation invalidity contentions that include not only the prior art references from these grounds, but also system prior art that could be combined with the prior art references and combinations presented in the Petition. Apple's willingness to forgo such a large swathe of prior art from the litigation is indicative of two things: 1) Apple's commitment to the IPR process as the appropriate forum for adjudicating the question of patentability, and 2) Apple's confidence in the strength of the merits of the grounds in the Petition.

Contrary to ACT's assertion, Apple diligently filed the '995 Patent petition more than two months prior to the statutory deadline. And despite the time difference between the trial date and projected FWD, Apple filed its Petitions with the express purpose of pursuing the question of unpatentability to its final determination. The fact that Apple is committed to the IPR process and the

removal of these bad patents, regardless of the outcome of the trial, demonstrates its dedication to strengthening the patent landscape and reducing the economic impact of bad patents for all stakeholders.

What's more, when "[p]etitioner appears to show a material error by the office," the Director has found that "it is an appropriate use of Office resources to review the potential error"—***even if the trial date in the copending litigation precedes the FWD date***. *Microsoft v. Partec*, IPR2025-00318, Paper 9, 3 (referring to the panel, despite a later trial date, because "Petitioner appears to show a material error by the Office and it is an appropriate use of Office resources to review the potential error").

In summary, *Fintiv* Factor 2 is not dispositive because the District Court's trial date is speculative, material errors warrant referral, and Apple diligently filed its petition months ahead of the one-year statutory deadline.

3. Factor 3: Limited Resources Would Have Been Expended by the Time of the Decision on Institution (Favors Referral)

Fintiv factor 3—which considers the "amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision"—also favors institution.

As of the Petition's filing, the parties had only exchanged infringement and invalidity contentions. *See* EX2002, 5-6. As of the filing of this paper, the parties

have exchanged terms for claim construction and are in the process of conducting expert depositions limited to claim construction, but the case has not otherwise advanced much since filing of the Petition. Given that the Markman hearing is scheduled for November 13, an order on claim construction is not expected until after a decision on institution in this proceeding. *See* EX2001, 4.

Moreover, ACT's assertions of the "significant resources" that have been invested in the District Court are misleading. *See* Paper 6, 3. Indeed, because of the sweeping stipulation, institution would remove the majority of prior art invalidity issues from the litigation and would be placed, instead, in the hands of the PTAB. Thus, not only would the litigation be streamlined, but the question of patentability of the '995 Patent would be addressed by a body better equipped to tackle the diverse technologies involved. This further advances the point that institution would promote a streamlined litigation while assuring the question of patentability is confidently addressed.

4. Factor 4: No Overlap Between This IPR and the District Court Proceeding (Favors Referral)

Fintiv factor 4—which considers overlap between issues raised in the Petition and in the parallel proceeding—strongly favors institution. First, Judge Gilstrap's model order suggests that the number of claims at issue in the litigation will be reduced over the coming months. Thus, it is purely speculative to assume

that all of the claims at issue in the IPR proceedings will be addressed by the litigation.

Additionally, and perhaps more importantly, to eliminate any possible perception of overlap between the PTAB and District Court, Apple filed a stipulation (APPLE-1073) providing that, if the PTAB institutes review, Apple will not pursue in District Court litigation:

- the specific grounds asserted in *inter partes* review in this proceeding, or any other ground that could have been reasonably raised in this proceeding (i.e., any ground that could have been raised under §§ 102 or 103 on the basis of prior art patents or printed publications). *See Sotera Wireless, Inc. v. Masimo Corporation*, IPR2020-01019, Paper 12 (PTAB December 1, 2020)); and
- combinations of the prior art asserted in this proceeding with any other type of prior art, including unpublished system prior art. *See Motorola*, IPR2024-01205, IPR2024-01206, IPR2024-01207 & IPR2024-01208, Paper 19.

Apple's stipulation here is far ***more sweeping*** than a traditional *Sotera* stipulation and goes further to allay the concerns raised in the Director's *Motorola* decision (*see id.*) by additionally precluding Apple's reliance (upon institution) on combinations of art asserted in the proceeding with unpublished system art or any

other type of prior art for that matter. Indeed, Apple explained that in so stipulating, "Apple seeks to avoid multiple proceedings in different forums addressing the validity of the instituted claims based on the same grounds or prior art." APPLE-1073.

To be clear, Apple's stipulation here is more robust than the *Sotera* stipulation addressed in *Motorola*. Apple's stipulation guarantees that, if instituted, none of the prior art asserted in the Petition will be used in the District Court proceeding against the Challenged Claims—even in combination with unpublished system art. For example, Apple's Petition relies on Phek (APPLE-1005) as the primary prior art reference in all grounds of the Petition. If the Petition were instituted, Apple has agreed through its stipulation to forego reliance on Phek in the litigation altogether, whether on its own, in combination with other patents or printed publications that could have been reasonably raised in IPR, or even in combination with unpublished system art that could not have been raised in IPR in the first instance. Apple's stipulation thus addresses the specific concern expressed in *Motorola* that "Petitioner's invalidity arguments in the district court … include combinations of the prior art asserted in these proceedings with unpublished system art." *Motorola*, 4.

In sum, there will be virtually no overlap between this proceeding and the parallel District Court litigation if IPR is instituted. Apple's petitions are based on

prior art combinations that would not be raised in District Court (e.g., combinations based on Phek/Segall/Martins/He), and Apple's stipulation is even more expansive than *Sotera* thus ensuring that the Office's goals of "efficiency and integrity" will be achieved by "not duplicating efforts" and "resolving materially different patentability issues." *Apple Inc. v. SEVEN Networks, LLC*, IPR2020-00156, Paper 10, 19 (PTAB June 15, 2020); *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24, 12 (PTAB June 16, 2020); *Google LLC v. Flypsi, Inc.*, IPR2023-00360, Paper 9, 36-39 (PTAB August 2, 2023). Therefore, *Fintiv* factor 4 strongly favors institution.

5. Factor 5: The Same Parties are in the Co-Pending Litigation (Neutral)

Fintiv Factor 5—The parties in this IPR are also parties in the co-pending Texas litigation. This factor is neutral.

6. Factor 6: ACT's Identified "Other Circumstances" Lack Merit and Do Not Weigh in Favor of Discretionary Denial (Favors Referral)

As mentioned above, ACT does not address the merits of the Petition. Nor can they. Based on the Board's previous institution of substantially the same grounds as presented here, there is no question that the Petition presents a compelling case for unpatentability.

Indeed, the PTAB has already recognized the strong merits of the grounds

asserted against the ’995 Patent by Samsung, the same grounds presented in this IPR. APPLE-1045 (decision to institute IPR trial on the merits). The merits of the Petition are also strong and well-supported by competent expert testimony and contemporaneous documentary evidence, including patents, printed publications, and standards specifications that corroborate the obviousness of the claimed subject matter.

That ACT identified no deficiencies in the merits of the Petition’s prior art challenges at all. This is unsurprising in light of plentiful evidence cited in the Petition that well establishes how the claims are directed to conventional features well-known in the field of art long before the Critical Date of the ’995 Patent, as well as the PTAB’s previous decision granting institution. Not only Apple, but the public broadly, shares an interest in ensuring that all claims of the ’995 Patent receive proper scrutiny from the PTAB—particularly as ACT continues to mount an aggressive litigation campaign against multiple defendants through several lawsuits in the time since buying the patents in 2022. APPLE-1090.

IV. CONCLUSION

For the foregoing reasons, a holistic evaluation of the complex and diverse litigation between the parties, material errors committed during examination, and the additional considerations laid out in the Stewart Memorandum strongly weigh against discretionary denial. Petitioner therefore respectfully requests that this case proceed to an institution determination on the merits.

Respectfully submitted,

Dated: September 12, 2025

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CERTIFICATION UNDER 37 CFR §42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petitioner's Opposition to Patent Owner's Discretionary Denial Brief totals 10,590 words, which is less than the 14,000 words allowed under 37 CFR § 42.24.

Respectfully submitted,

Dated: September 12, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on September 12, 2025, a complete and entire copy of this Petitioner's Opposition to Patent Owner's Request for Discretionary Denial of Institution and Accompanying Exhibits were provided by email to the Patent Owner by serving the correspondence email address of record as follows:

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